



SEQUENCE LISTING

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<120> FUSION MOLECULES AND TREATMENT OF
IgE-MEDIATED ALLERGIC DISEASES

<130> UC067.002A

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<160> 177

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 696
<212> DNA
<213> Homo sapiens

<400> 1
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accctgagg tcacatgcgt ggtggggac gtgagccacg aagaccctga ggtcaagttc 180
aactggtagc tggacggcgt ggaggtgcatt aatgttaaga caaagccgcg ggaggagcag 240
tacaacagca cgtaccgtgt ggtcagcgtc ctcaccgtcc tgcaccagaa ctggatgaat 300
ggaaaggagt acaaagtgcaa ggtctccaac aaagccctcc cagccccat cgagaaaacc 360
atctccaaag ccaaagtgca gccccgagaa ccacaggtgt acaccctgcc cccatcccg 420
gatgagctga ccaagaacca ggtcagcctg acctgcctgg tcaaaggctt ctatcccg 480
gacatcgccg tggagtggaa gagcaatggg cagccggaga acaactacaa gaccacgcct 540
ccctgtctgg actccgtcgg ctcctcttc ctctacagca agctcaccgt ggacaagagc 600
aggtgtccagc agggaaacgt cttctcatgc tccgtgatgc atgaggctct gcacaaccac 660
taccagcaga ggagcctctc cctgtctccg ggtaaa 696

<210> 2
<211> 330
<212> PRT
<213> Homo sapiens

<400> 2
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
1 5 10 15
Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
20 25 30
Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45
Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60
Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
65 70 75 80
Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
85 90 95
Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
100 105 110
Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
115 120 125

BL
CONT.

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
130 135 140
Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
145 150 155 160
Tyr Val Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu
165 170 175
Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
180 185 190
His Gln Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
195 200 205
Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val
210 215 220
Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
225 230 235 240
Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
245 250 255
Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
260 265 270
Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe
275 280 285
Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
290 295 300
Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln
305 310 315 320
Gln Arg Ser Leu Ser Leu Ser Pro Gly Lys
325 330

<210> 3
<211> 232
<212> PRT
<213> Homo sapiens

<400> 3
Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10 15
Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
20 25 30
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
35 40 45
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
50 55 60
Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln
65 70 75 80
Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
85 90 95
Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
100 105 110
Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro
115 120 125
Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
130 135 140
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
145 150 155 160
Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
165 170 175
Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr
180 185 190
Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
195 200 205
Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg

210 215 220
Ser Leu Ser Leu Ser Pro Gly Lys
225 230

<210> 4
<211> 1445
<212> DNA
<213> Homo sapiens

<400> 4
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gccacccctcg tgactctggg ctgcctggcc acgggctact tcccgagcc ggtgatggtg 120
acctgggaca caggctccct caacgggaca actatgacac taccagccac caccctcacc 180
ctctctggtc actatgccac catcagctt ctgaccgtct cgggtgcgtg ggccaagcag 240
atgttccaccc gccgtgtggc acacactcca tcgtccacag actgggtcga caacaaaacc 300
ttcagcgtct gctccaggga cttcaccccg cccaccgtga agatcttaca gtcgtcctgc 360
gacggccggcg ggcacttccc cccgaccatc cagctcctgt gcctcgtctc tgggtacacc 420
ccagggacta tcaacatcac ctggctggag gacgggcaagg tcatggacgt ggacttgc 480
accgcctcta ccacgcagga gggtgagctg gcctccacac aaagcgagct caccctcacc 540
cagaagcact ggctgtcaga ccgcacccatc acctgccagg tcacccatca aggtcacacc 600
tttgaggaca gcaccaagaa gtgtcagat tccaacccga gagggtgag cgcctaccta 660
agccggccca gcccgttcga cctgttcatc cgcaagtgcgc ccacatcac ctgtctggtg 720
gtggacttgg cacccagcaa ggggaccgtg aacctgaccc ggtccgggc cagtggaaag 780
cctgtgaacc actccaccag aaaggaggag aagcagcgc aatggcacgtt aaccgtcacc 840
tccaccctgc cggggcgcac ccgagactgg atcgaggagg agacccatca gtgcagggtg 900
acccacccccc acctgcacccag ggccctcatg cgggtccacga ccaagaccag cggcccgccgt 960
gctgccccgg aagtctatgc gtttgcacg cccgagtgcc cggggagccg ggacaagcgc 1020
accctcgccct gcctgatcca gaacttcatg cctgaggaca tctcggtca gtggctgcac 1080
aacgaggtgc agctcccgga cgcccccgcac agcacgcgc agcccccga gaccaaggc 1140
tccggcttct tcgtcttcag ccgcctggag gtgaccagg ccgaatggga gcagaaagat 1200
gagttcatct gcctgacgt ccatgaggca gcgagccct cacagaccgt ccagcgagcg 1260
gtgtctgtaa atcccggtaa atgacgtact cctgcctccc tccctccca ggcctccatcc 1320
agctgtgcag tggggaggac tggccagacc ttctgtccac tggcaatg accccaggaa 1380
gctacccca ataaactgtg cctgctcaga gccccagtagc acccatttcc gggagcggc 1440
aggc 1445

<210> 5
<211> 427
<212> PRT
<213> Homo sapiens

<400> 5
Ser Thr Gln Ser Pro Ser Val Phe Pro Leu Thr Arg Cys Cys Lys Asn
1 5 10 15
Ile Pro Ser Asn Ala Thr Ser Val Thr Leu Gly Cys Leu Ala Thr Gly
20 25 30
Tyr Phe Pro Glu Pro Val Met Val Thr Trp Asp Thr Gly Ser Leu Asn
35 40 45
Gly Thr Thr Met Thr Leu Pro Ala Thr Thr Leu Thr Leu Ser Gly His
50 55 60
Tyr Ala Thr Ile Ser Leu Leu Thr Val Ser Gly Ala Trp Ala Lys Gln
65 70 75 80
Met Phe Thr Cys Arg Val Ala His Thr Pro Ser Ser Thr Asp Trp Val
85 90 95
Asp Asn Lys Thr Phe Ser Val Cys Ser Arg Asp Phe Thr Pro Pro Thr
100 105 110
Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly His Phe Pro Pro
115 120 125
Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile
130 135 140

Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser
 145 150 155 160
 Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu
 165 170 175
 Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys
 180 185 190
 Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys
 195 200 205
 Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser
 210 215 220
 Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val
 225 230 235 240
 Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg
 245 250 255
 Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln
 260 265 270
 Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg
 275 280 285
 Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His
 290 295 300
 Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg
 305 310 315 320
 Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser
 325 330 335
 Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu
 340 345 350
 Asp Ile Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala
 355 360 365
 Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe
 370 375 380
 Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp
 385 390 395 400
 Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr
 405 410 415
 Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys
 420 425

<210> 6
 <211> 320
 <212> PRT
 <213> Homo sapiens

<400> 6
 Phe Thr Pro Pro Thr Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly
 1 5 10 15
 Gly His Phe Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr
 20 25 30
 Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met
 35 40 45
 Asp Val Asp Leu Ser Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala
 50 55 60
 Ser Thr Gln Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp
 65 70 75 80
 Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp
 85 90 95
 Ser Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr
 100 105 110
 Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr
 115 120 125
 Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn

130	135	140
Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg		
145	150	155
Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu		160
165	170	175
Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg		
180	185	190
Val Thr His Pro His Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys		
195	200	205
Thr Ser Gly Pro Arg Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro		
210	215	220
Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln		
225	230	235
Asn Phe Met Pro Glu Asp Ile Ser Val Gln Trp Leu His Asn Glu Val		240
245	250	255
Gln Leu Pro Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys		
260	265	270
Gly Ser Gly Phe Phe Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu		
275	280	285
Trp Glu Gln Lys Asp Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala		
290	295	300
Ser Pro Ser Gln Thr Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys		
305	310	315
		320

<210> 7
 <211> 569
 <212> PRT
 <213> Unknown

<220>
 <223> Fusion between hinge-CH2-CH3 (IgG1) to CH2-CH3-CH4
 (IgE)

<400> 7		
Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala		
1	5	10
Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro		
20	25	30
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val		
35	40	45
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val		
50	55	60
Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln		
65	70	75
Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln		
85	90	95
Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala		
100	105	110
Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro		
115	120	125
Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr		
130	135	140
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser		
145	150	155
Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr		
165	170	175
Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr		
180	185	190
Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe		
195	200	205

Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg
 210 215 220
 Ser Leu Ser Leu Ser Pro Gly Lys Val Glu Gly Gly Gly Ser Gly
 225 230 235 240
 Gly Gly Gly Ser Gly Gly Ser Phe Thr Pro Pro Thr Val Lys
 245 250 255
 Ile Leu Gln Ser Ser Cys Asp Gly Gly His Phe Pro Pro Thr Ile
 260 265 270
 Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile Asn Ile
 275 280 285
 Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser Thr Ala
 290 295 300
 Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu Leu Thr
 305 310 315 320
 Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys Gln Val
 325 330 335
 Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys Ala Asp
 340 345 350
 Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe
 355 360 365
 Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val Val Asp
 370 375 380
 Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser
 385 390 395 400
 Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn
 405 410 415
 Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp
 420 425 430
 Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro
 435 440 445
 Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg Ala Ala
 450 455 460
 Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser Arg Asp
 465 470 475 480
 Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile
 485 490 495
 Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala Arg His
 500 505 510
 Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe Val Phe
 515 520 525
 Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp Glu Phe
 530 535 540
 Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr Val Gln
 545 550 555 560
 Arg Ala Val Ser Val Asn Pro Gly Lys
 565

<210> 8
 <211> 159
 <212> PRT
 <213> Alnus glutinosa (Alder)

<220>

<400> 8
 Gly Val Phe Asn Tyr Glu Ala Glu Thr Pro Ser Val Ile Pro Ala Ala
 1 5 10 15
 Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Lys Leu Leu Pro Lys
 20 25 30
 Val Ala Pro Glu Ala Val Ser Ser Val Glu Asn Ile Glu Gly Asn Gly

35	40	45	
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe			
50	55	60	
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp Arg Val Asn Phe Lys			
65	70	75	80
Tyr Ser Phe Ser Val Ile Glu Gly Gly Ala Val Gly Asp Ala Leu Glu			
85	90	95	
Lys Val Cys Asn Glu Ile Lys Ile Val Ala Ala Pro Asp Gly Gly Ser			
100	105	110	
Ile Leu Lys Ile Ser Asn Lys Phe His Thr Lys Gly Asp His Glu Ile			
115	120	125	
Asn Ala Glu Gln Ile Lys Ile Glu Lys Glu Lys Ala Val Gly Leu Leu			
130	135	140	
Lys Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn			
145	150	155	

<210> 9

<211> 113

<212> PRT

<213> Alternaria alternata

<400> 9

Met Lys His Leu Ala Ala Tyr Leu Leu Leu Gly Leu Gly Gly Asn Thr			
1	5	10	15
Ser Pro Ser Ala Ala Asp Val Lys Ala Val Leu Glu Ser Val Gly Ile			
20	25	30	
Glu Ala Asp Ser Asp Arg Leu Asp Lys Leu Ile Ser Glu Leu Glu Gly			
35	40	45	
Lys Asp Ile Asn Glu Leu Ile Ala Ser Gly Ser Glu Lys Leu Ala Ser			
50	55	60	
Val Pro Ser Gly Gly Ala Gly Gly Ala Ala Ala Ser Gly Gly Ala Ala			
65	70	75	80
Ala Ala Gly Gly Ser Ala Gln Ala Glu Ala Ala Pro Glu Ala Ala Lys			
85	90	95	
Glu Glu Glu Lys Glu Glu Ser Asp Glu Asp Met Gly Phe Gly Leu Phe			
100	105	110	

Asp

<210> 10

<211> 204

<212> PRT

<213> Alternaria alternata

<400> 10

Met Ala Pro Lys Ile Ala Ile Val Tyr Tyr Ser Met Tyr Gly His Ile			
1	5	10	15
Lys Lys Met Ala Asp Ala Glu Leu Lys Gly Ile Gln Glu Ala Gly Gly			
20	25	30	
Asp Ala Lys Leu Phe Gln Val Ala Glu Thr Leu Pro Gln Glu Val Leu			
35	40	45	
Asp Lys Met Tyr Ala Pro Pro Lys Asp Ser Ser Val Pro Val Leu Glu			
50	55	60	
Asp Pro Ala Val Leu Glu Glu Phe Asp Gly Ile Leu Phe Gly Ile Pro			
65	70	75	80
Thr Arg Tyr Gly Asn Phe Pro Ala Gln Phe Lys Thr Phe Trp Asp Lys			
85	90	95	
Thr Gly Lys Gln Trp Gln Gln Gly Ala Phe Trp Gly Lys Tyr Ala Gly			
100	105	110	

Val Phe Val Ser Thr Gly Thr Leu Gly Gly Gln Glu Thr Thr Ala
 115 120 125
 Ile Thr Ser Met Ser Thr Leu Val Asp His Gly Phe Ile Tyr Val Pro
 130 135 140
 Leu Gly Tyr Lys Thr Ala Phe Ser Met Leu Ala Asn Leu Asp Glu Val
 145 150 155 160
 His Gly Gly Ser Pro Trp Gly Ala Gly Thr Phe Ser Ala Gly Asp Gly
 165 170 175
 Ser Arg Gln Pro Ser Glu Leu Glu Leu Asn Ile Ala Gln Ala Gln Gly
 180 185 190
 Lys Ala Phe Tyr Glu Ala Val Ala Lys Ala His Gln
 195 200

<210> 11
 <211> 495
 <212> PRT
 <213> Alternaria alternata

<400> 11
 Met Thr Ser Val Lys Leu Ser Thr Pro Gln Thr Gly Glu Phe Glu Gln
 1 5 10 15
 Pro Thr Gly Leu Phe Ile Asn Asn Glu Phe Val Lys Ala Val Asp Gly
 20 25 30
 Lys Thr Phe Asp Val Ile Asn Pro Ser Thr Glu Glu Val Ile Cys Ser
 35 40 45
 Val Gln Glu Ala Thr Glu Lys Asp Val Asp Ile Ala Val Ala Ala Ala
 50 55 60
 Arg Lys Ala Phe Asn Gly Pro Trp Ala Lys Glu Thr Pro Glu Asn Arg
 65 70 75 80
 Gly Lys Leu Leu Asn Lys Leu Ala Asp Leu Phe Glu Lys Asn Ala Asp
 85 90 95
 Leu Ile Ala Ala Val Glu Ala Leu Asp Asn Gly Lys Ala Phe Ser Met
 100 105 110
 Ala Lys Asn Val Asp Val Pro Ala Ala Ala Gly Cys Leu Arg Tyr Tyr
 115 120 125
 Gly Gly Trp Ala Asp Lys Ile Glu Gly Lys Val Val Asp Thr Ala Pro
 130 135 140
 Asp Ser Phe Asn Tyr Ile Arg Lys Ser Leu Leu Val Phe Ala Val Arg
 145 150 155 160
 Ser Ser Met Glu Leu Pro Ile Leu Met Trp Ser Trp Lys Ile Gly Pro
 165 170 175
 Ala Ile Ala Thr Gly Asn Thr Val Val Leu Lys Thr Ala Glu Gln Thr
 180 185 190
 Pro Leu Ser Ala Tyr Ile Ala Cys Lys Leu Ile Gln Glu Ala Gly Phe
 195 200 205
 Pro Pro Gly Val Ile Asn Val Ile Thr Gly Phe Gly Lys Ile Ala Gly
 210 215 220
 Ala Ala Met Ser Ala His Met Asp Ile Asp Lys Ile Ala Phe Thr Gly
 225 230 235 240
 Ser Thr Val Val Gly Arg Gln Ile Met Lys Ser Ala Ala Gly Ser Asn
 245 250 255
 Leu Lys Lys Val Thr Leu Glu Leu Gly Gly Lys Ser Pro Asn Ile Val
 260 265 270
 Phe Ala Asp Ala Asp Leu Asp Glu Ala Ile His Trp Val Asn Phe Gly
 275 280 285
 Ile Tyr Phe Asn His Gly Gln Ala Cys Cys Ala Gly Ser Arg Ile Tyr
 290 295 300
 Val Gln Glu Glu Ile Tyr Asp Lys Phe Ile Gln Arg Phe Lys Glu Arg
 305 310 315 320
 Ala Ala Gln Asn Ala Val Gly Asp Pro Phe Ala Ala Thr Leu Gln Gly

325	330	335
Pro Gln Val Ser Gln Leu Gln Phe Asp Arg Ile Met Gly Tyr Ile Glu		
340	345	350
Glu Gly Lys Lys Ser Gly Ala Thr Ile Glu Thr Gly Gly Asn Arg Lys		
355	360	365
Gly Asp Lys Gly Tyr Phe Ile Glu Pro Thr Ile Phe Ser Asn Val Thr		
370	375	380
Glu Asp Met Lys Ile Gln Gln Glu Glu Ile Phe Gly Pro Val Cys Thr		
385	390	395
Ile Ser Lys Phe Lys Thr Lys Ala Asp Val Ile Lys Ile Gly Asn Asn		
405	410	415
Thr Thr Tyr Gly Leu Ser Ala Ala Val His Thr Ser Asn Leu Thr Thr		
420	425	430
Ala Ile Glu Val Ala Asn Ala Leu Arg Ala Gly Thr Val Trp Val Asn		
435	440	445
Ser Tyr Asn Thr Leu His Trp Gln Leu Pro Phe Gly Gly Tyr Lys Glu		
450	455	460
Ser Gly Ile Gly Arg Glu Leu Gly Glu Ala Ala Leu Asp Asn Tyr Ile		
465	470	475
Gln Thr Lys Thr Val Ser Ile Arg Leu Gly Asp Val Leu Phe Gly		
485	490	495

<210> 12

<211> 110

<212> PRT

<213> Alternaria alternata

<400> 12

Met Ser Thr Ser Glu Leu Ala Thr Ser Tyr Ala Ala Leu Ile Leu Ala			
1	5	10	15
Asp Asp Gly Val Asp Ile Thr Ala Asp Lys Leu Gln Ser Leu Ile Lys			
20	25	30	
Ala Ala Lys Ile Glu Glu Val Glu Pro Ile Trp Thr Thr Leu Phe Ala			
35	40	45	
Lys Ala Leu Glu Gly Lys Asp Val Lys Asp Leu Leu Leu Asn Val Gly			
50	55	60	
Ser Gly Gly Gly Ala Ala Pro Leu Pro Glu Ala Leu Leu Leu Arg Trp			
65	70	75	80
Arg Ala Ala Asp Ala Ala Pro Ala Ala Glu Glu Lys Lys Glu Glu Glu			
85	90	95	
Lys Glu Glu Ser Asp Glu Asp Met Gly Phe Gly Leu Phe Asp			
100	105	110	

<210> 13

<211> 396

<212> PRT

<213> Ambrosia artemisiifolia (Short ragweed)

<400> 13

Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu			
1	5	10	15
Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Leu Gln Glu Ile			
20	25	30	
Leu Pro Val Asn Glu Thr Arg Arg Leu Thr Thr Ser Gly Ala Tyr Asn			
35	40	45	
Ile Ile Asp Gly Cys Trp Arg Gly Lys Ala Asp Trp Ala Glu Asn Arg			
50	55	60	
Lys Ala Leu Ala Asp Cys Ala Gln Gly Phe Gly Lys Gly Thr Val Gly			
65	70	75	80

Gly Lys Asp Gly Asp Ile Tyr Thr Val Thr Ser Glu Leu Asp Asp Asp
 85 90 95
 Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Gly Ala Ala Gln Asn
 100 105 110
 Arg Pro Leu Trp Ile Ile Phe Glu Arg Asp Met Val Ile Arg Leu Asp
 115 120 125
 Lys Glu Met Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg Gly Ala
 130 135 140
 Lys Val Glu Ile Ile Asn Ala Gly Phe Thr Leu Asn Gly Val Lys Asn
 145 150 155 160
 Val Ile Ile His Asn Ile Asn Met His Asp Val Lys Val Asn Pro Gly
 165 170 175
 Gly Leu Ile Lys Ser Asn Asp Gly Pro Ala Ala Pro Arg Ala Gly Ser
 180 185 190
 Asp Gly Asp Ala Ile Ser Ile Ser Gly Ser Ser Gln Ile Trp Ile Asp
 195 200 205
 His Cys Ser Leu Ser Lys Ser Val Asp Gly Leu Val Asp Ala Lys Leu
 210 215 220
 Gly Thr Thr Arg Leu Thr Val Ser Asn Ser Leu Phe Thr Gln His Gln
 225 230 235 240
 Phe Val Leu Leu Phe Gly Ala Gly Asp Glu Asn Ile Glu Asp Arg Gly
 245 250 255
 Met Leu Ala Thr Val Ala Phe Asn Thr Phe Thr Asp Asn Val Asp Gln
 260 265 270
 Arg Met Pro Arg Cys Arg His Gly Phe Phe Gln Val Val Asn Asn Asn
 275 280 285
 Tyr Asp Lys Trp Gly Ser Tyr Ala Ile Gly Gly Ser Ala Ser Pro Thr
 290 295 300
 Ile Leu Ser Gln Gly Asn Arg Phe Cys Ala Pro Asp Glu Arg Ser Lys
 305 310 315 320
 Lys Asn Val Leu Gly Arg His Gly Glu Ala Ala Ala Glu Ser Met Lys
 325 330 335
 Trp Asn Trp Arg Thr Asn Lys Asp Val Leu Glu Asn Gly Ala Ile Phe
 340 345 350
 Val Ala Ser Gly Val Asp Pro Val Leu Thr Pro Glu Gln Ser Ala Gly
 355 360 365
 Met Ile Pro Ala Glu Pro Gly Glu Ser Ala Leu Ser Leu Thr Ser Ser
 370 375 380
 Ala Gly Val Leu Ser Cys Gln Pro Gly Ala Pro Cys
 385 390 395

<210> 14
 <211> 398
 <212> PRT
 <213> Ambrosia artemisiifolia (Short ragweed)

<400> 14
 Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu
 1 5 10 15
 Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Val Glu Glu Phe
 20 25 30
 Leu Pro Ser Ala Asn Glu Thr Arg Arg Ser Leu Lys Ala Cys Glu Ala
 35 40 45
 His Asn Ile Ile Asp Lys Cys Trp Arg Cys Lys Ala Asp Trp Ala Asn
 50 55 60
 Asn Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr
 65 70 75 80
 Tyr Gly Gly Lys His Gly Asp Val Tyr Thr Val Thr Ser Asp Lys Asp
 85 90 95
 Asp Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Ala Ala Ala

100	105	110	
Gln Asn Arg Pro Leu Trp Ile Ile Phe Lys Arg Asn Met Val Ile His			
115	120	125	
Leu Asn Gln Glu Leu Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg			
130	135	140	
Gly Val Lys Val Asn Ile Val Asn Ala Gly Leu Thr Leu Met Asn Val			
145	150	155	160
Lys Asn Ile Ile Ile His Asn Ile Asn Ile His Asp Ile Lys Val Cys			
165	170	175	
Pro Gly Gly Met Ile Lys Ser Asn Asp Gly Pro Pro Ile Leu Arg Gln			
180	185	190	
Gln Ser Asp Gly Asp Ala Ile Asn Val Ala Gly Ser Ser Gln Ile Trp			
195	200	205	
Ile Asp His Cys Ser Leu Ser Lys Ala Ser Asp Gly Leu Leu Asp Ile			
210	215	220	
Thr Leu Gly Ser Ser His Val Thr Val Ser Asn Cys Lys Phe Thr Gln			
225	230	235	240
His Gln Phe Val Leu Leu Leu Gly Ala Asp Asp Thr His Tyr Gln Asp			
245	250	255	
Lys Gly Met Leu Ala Thr Val Ala Phe Asn Met Phe Thr Asp His Val			
260	265	270	
Asp Gln Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Val Val Asn			
275	280	285	
Asn Asn Tyr Asp Arg Trp Gly Thr Tyr Ala Ile Gly Gly Ser Ser Ala			
290	295	300	
Pro Thr Ile Leu Ser Gln Gly Asn Arg Phe Phe Ala Pro Asp Asp Ile			
305	310	315	320
Ile Lys Lys Asn Val Leu Ala Arg Thr Gly Thr Gly Asn Ala Glu Ser			
325	330	335	
Met Ser Trp Asn Trp Arg Thr Asp Arg Asp Leu Leu Glu Asn Gly Ala			
340	345	350	
Ile Phe Leu Pro Ser Gly Ser Asp Pro Val Leu Thr Pro Glu Gln Lys			
355	360	365	
Ala Gly Met Ile Pro Ala Glu Pro Gly Glu Ala Val Leu Arg Leu Thr			
370	375	380	
Ser Ser Ala Gly Val Leu Ser Cys His Gln Gly Ala Pro Cys			
385	390	395	

<210> 15

<211> 397

<212> PRT

<213> Ambrosia artemisiifolia (Short ragweed)

<400> 15

Met Gly Ile Lys Gln Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu			
1	5	10	15
Val Ala Leu Leu Gln Pro Val Arg Ser Ala Glu Gly Val Gly Glu Ile			
20	25	30	
Leu Pro Ser Val Asn Glu Thr Arg Ser Leu Gln Ala Cys Glu Ala Leu			
35	40	45	
Asn Ile Ile Asp Lys Cys Trp Arg Gly Lys Ala Asp Trp Glu Asn Asn			
50	55	60	
Arg Gln Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr Tyr			
65	70	75	80
Gly Gly Lys Trp Gly Asp Val Tyr Thr Val Thr Ser Asn Leu Asp Asp			
85	90	95	
Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Ala Ala Ala Gln			
100	105	110	
Asn Arg Pro Leu Trp Ile Ile Phe Lys Asn Asp Met Val Ile Asn Leu			
115	120	125	

*BJ
cont.*

Asn Gln Glu Leu Val Val Asn Ser Asp Lys Thr Ile Asp Gly Arg Gly
130 135 140
Val Lys Val Glu Ile Ile Asn Gly Gly Leu Thr Leu Met Asn Val Lys
145 150 155 160
Asn Ile Ile Ile His Asn Ile Asn Ile His Asp Val Lys Val Leu Pro
165 170 175
Gly Gly Met Ile Lys Ser Asn Asp Gly Pro Pro Ile Leu Arg Gln Ala
180 185 190
Ser Asp Gly Asp Thr Ile Asn Val Ala Gly Ser Ser Gln Ile Trp Ile
195 200 205
Asp His Cys Ser Leu Ser Lys Ser Phe Asp Gly Leu Val Asp Val Thr
210 215 220
Leu Gly Ser Thr His Val Thr Ile Ser Asn Cys Lys Phe Thr Gln Gln
225 230 235 240
Ser Lys Ala Ile Leu Leu Gly Ala Asp Asp Thr His Val Gln Asp Lys
245 250 255
Gly Met Leu Ala Thr Val Ala Phe Asn Met Phe Thr Asp Asn Val Asp
260 265 270
Gln Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Val Val Asn Asn
275 280 285
Asn Tyr Asp Arg Trp Gly Thr Tyr Ala Ile Gly Gly Ser Ser Ala Pro
290 295 300
Thr Ile Leu Cys Gln Gly Asn Arg Phe Leu Ala Pro Asp Asp Gln Ile
305 310 315 320
Lys Lys Asn Val Leu Ala Arg Thr Gly Thr Gly Ala Ala Glu Ser Met
325 330 335
Ala Trp Asn Trp Arg Ser Asp Lys Asp Leu Leu Glu Asn Gly Ala Ile
340 345 350
Phe Val Thr Ser Gly Ser Asp Pro Val Leu Thr Pro Val Gln Ser Ala
355 360 365
Gly Met Ile Pro Ala Glu Pro Gly Glu Ala Ala Ile Lys Leu Thr Ser
370 375 380
Ser Ala Gly Val Phe Ser Cys His Pro Gly Ala Pro Cys
385 390 395

<210> 16
<211> 392
<212> PRT
<213> Ambrosia artemisiifolia (Short ragweed)

<400> 16

Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu
1 5 10 15
Val Thr Leu Leu Gln Pro Val Arg Ser Ala Glu Asp Leu Gln Gln Ile
20 25 30
Leu Pro Ser Ala Asn Glu Thr Arg Ser Leu Thr Thr Cys Gly Thr Tyr
35 40 45
Asn Ile Ile Asp Gly Cys Trp Arg Gly Lys Ala Asp Trp Ala Glu Asn
50 55 60
Arg Lys Ala Leu Ala Asp Cys Ala Gln Gly Phe Ala Lys Gly Thr Ile
65 70 75 80
Gly Gly Lys Asp Gly Asp Ile Tyr Thr Val Thr Ser Glu Leu Asp Asp
85 90 95
Asp Val Ala Asn Pro Lys Glu Gly Thr Leu Arg Phe Gly Ala Ala Gln
100 105 110
Asn Arg Pro Leu Trp Ile Ile Phe Ala Arg Asp Met Val Ile Arg Leu
115 120 125
Asp Arg Glu Leu Ala Ile Asn Asn Asp Lys Thr Ile Asp Gly Arg Gly
130 135 140
Ala Lys Val Glu Ile Ile Asn Ala Gly Phe Ala Ile Tyr Asn Val Lys

145	150	155	160
Asn Ile Ile Ile His Asn Ile Ile Met His Asp Ile Val Val Asn Pro			
165	170	175	
Gly Gly Leu Ile Lys Ser His Asp Gly Pro Pro Val Pro Arg Lys Gly			
180	185	190	
Ser Asp Gly Asp Ala Ile Gly Ile Ser Gly Gly Ser Gln Ile Trp Ile			
195	200	205	
Asp His Cys Ser Leu Ser Lys Ala Val Asp Gly Leu Ile Asp Ala Lys			
210	215	220	
His Gly Ser Thr His Phe Thr Val Ser Asn Cys Leu Phe Thr Gln His			
225	230	235	240
Gln Tyr Leu Leu Leu Phe Trp Asp Phe Asp Glu Arg Gly Met Leu Cys			
245	250	255	
Thr Val Ala Phe Asn Lys Phe Thr Asp Asn Val Asp Gln Arg Met Pro			
260	265	270	
Asn Leu Arg His Gly Phe Val Gln Val Val Asn Asn Asn Tyr Glu Arg			
275	280	285	
Trp Gly Ser Tyr Ala Leu Gly Gly Ser Ala Gly Pro Thr Ile Leu Ser			
290	295	300	
Gln Gly Asn Arg Phe Leu Ala Ser Asp Ile Lys Lys Glu Val Val Gly			
305	310	315	320
Arg Tyr Gly Glu Ser Ala Met Ser Glu Ser Ile Asn Trp Asn Trp Arg			
325	330	335	
Ser Tyr Met Asp Val Phe Glu Asn Gly Ala Ile Phe Val Pro Ser Gly			
340	345	350	
Val Asp Pro Val Leu Thr Pro Glu Gln Asn Ala Gly Met Ile Pro Ala			
355	360	365	
Glu Pro Gly Glu Ala Val Leu Arg Leu Thr Ser Ser Ala Gly Val Leu			
370	375	380	
Ser Cys Gln Pro Gly Ala Pro Cys			
385	390		

<210> 17

<211> 397

<212> PRT

<213> Ambrosia artemisiifolia (Short ragweed)

<400> 17

Met Gly Ile Lys His Cys Cys Tyr Ile Leu Tyr Phe Thr Leu Ala Leu			
1	5	10	15
Val Thr Leu Val Gln Ala Gly Arg Leu Gly Glu Glu Val Asp Ile Leu			
20	25	30	
Pro Ser Pro Asn Asp Thr Arg Arg Ser Leu Gln Gly Cys Glu Ala His			
35	40	45	
Asn Ile Ile Asp Lys Cys Trp Arg Cys Lys Pro Asp Trp Ala Glu Asn			
50	55	60	
Arg Gln Ala Leu Gly Asn Cys Ala Gln Gly Phe Gly Lys Ala Thr His			
65	70	75	80
Gly Gly Lys Trp Gly Asp Ile Tyr Met Val Thr Ser Asp Gln Asp Asp			
85	90	95	
Asp Val Val Asn Pro Lys Glu Gly Thr Leu Arg Phe Gly Ala Thr Gln			
100	105	110	
Asp Arg Pro Leu Trp Ile Ile Phe Gln Arg Asp Met Ile Ile Tyr Leu			
115	120	125	
Gln Gln Glu Met Val Val Thr Ser Asp Lys Thr Ile Asp Gly Arg Gly			
130	135	140	
Ala Lys Val Glu Leu Val Tyr Gly Gly Ile Thr Leu Met Asn Val Lys			
145	150	155	160
Asn Val Ile Ile His Asn Ile Asp Ile His Asp Val Arg Val Leu Pro			
165	170	175	

Gly Gly Arg Ile Lys Ser Asn Gly Gly Pro Ala Ile Pro Arg His Gln
 180 185 190
 Ser Asp Gly Asp Ala Ile His Val Thr Gly Ser Ser Asp Ile Trp Ile
 195 200 205
 Asp His Cys Thr Leu Ser Lys Ser Phe Asp Gly Leu Val Asp Val Asn
 210 215 220
 Trp Gly Ser Thr Gly Val Thr Ile Ser Asn Cys Lys Phe Thr His His
 225 230 235 240
 Glu Lys Ala Val Leu Leu Gly Ala Ser Asp Thr His Phe Gln Asp Leu
 245 250 255
 Lys Met His Val Thr Leu Ala Tyr Asn Ile Phe Thr Asn Thr Val His
 260 265 270
 Glu Arg Met Pro Arg Cys Arg Phe Gly Phe Phe Gln Ile Val Asn Asn
 275 280 285
 Phe Tyr Asp Arg Trp Asp Lys Tyr Ala Ile Gly Gly Ser Ser Asn Pro
 290 295 300
 Thr Ile Leu Ser Gln Gly Asn Lys Phe Val Ala Pro Asp Phe Ile Tyr
 305 310 315 320
 Lys Lys Asn Val Cys Leu Arg Thr Gly Ala Gln Glu Pro Glu Trp Met
 325 330 335
 Thr Trp Asn Trp Arg Thr Gln Asn Asp Val Leu Glu Asn Gly Ala Ile
 340 345 350
 Phe Val Ala Ser Gly Ser Asp Pro Val Leu Thr Ala Glu Gln Asn Ala
 355 360 365
 Gly Met Met Gln Ala Glu Pro Gly Asp Met Val Pro Gln Leu Thr Met
 370 375 380
 Asn Ala Gly Val Leu Thr Cys Ser Pro Gly Ala Pro Cys
 385 390 395

<210> 18
 <211> 101
 <212> PRT

<213> Ambrosia artemisiifolia var.elatior(Short ragweed)

<400> 18

Gly Lys Val Tyr Leu Val Gly Gly Pro Glu Leu Gly Gly Trp Lys Leu
 1 5 10 15
 Gln Ser Asp Pro Arg Ala Tyr Ala Leu Trp Ser Ala Arg Gln Gln Phe
 20 25 30
 Lys Thr Thr Asp Val Leu Trp Phe Asn Phe Thr Thr Gly Glu Asp Ser
 35 40 45
 Val Ala Glu Val Trp Arg Glu Glu Ala Tyr His Ala Cys Asp Ile Lys
 50 55 60
 Asp Pro Ile Arg Leu Glu Pro Gly Gly Pro Asp Arg Phe Thr Leu Leu
 65 70 75 80
 Thr Pro Gly Ser His Phe Ile Cys Thr Lys Asp Gln Lys Phe Val Ala
 85 90 95
 Cys Val Pro Gly Arg
 100

<210> 19
 <211> 45
 <212> PRT

<213> Ambrosia artemisiifolia var.elatior(Short ragweed)

<400> 19

Leu Val Pro Cys Ala Trp Ala Gly Asn Val Cys Gly Glu Lys Arg Ala
 1 5 10 15
 Tyr Cys Cys Ser Asp Pro Gly Arg Tyr Cys Pro Trp Gln Val Val Cys

20 25 30
Tyr Glu Ser Ser Glu Ile Cys Ser Lys Lys Cys Gly Lys
35 40 45

<210> 20
<211> 77
<212> PRT
<213> Ambrosia psilostachya (Western ragweed)

<400> 20
Met Asn Asn Glu Lys Asn Val Ser Phe Glu Phe Ile Gly Ser Thr Asp
1 5 10 15
Glu Val Asp Glu Ile Lys Leu Leu Pro Cys Ala Trp Ala Gly Asn Val
20 25 30
Cys Gly Glu Lys Arg Ala Tyr Cys Cys Ser Asp Pro Gly Arg Tyr Cys
35 40 45
Pro Trp Gln Val Val Cys Tyr Glu Ser Ser Glu Ile Cys Ser Gln Lys
50 55 60
Cys Gly Lys Met Arg Met Asn Val Thr Lys Asn Thr Ile
65 70 75

<210> 21
<211> 77
<212> PRT
<213> Ambrosia psilostachya (Western ragweed)

<400> 21
Met Asn Asn Glu Lys Asn Val Ser Phe Glu Phe Ile Gly Ser Thr Asn
1 5 10 15
Glu Val Asp Glu Ile Lys Val Met Ala Cys Tyr Ala Ala Gly Ser Ile
20 25 30
Cys Gly Glu Lys Arg Gly Tyr Cys Ser Ser Asp Pro Gly Arg Tyr Cys
35 40 45
Pro Trp Gln Val Val Cys Tyr Glu Ser Arg Lys Ile Cys Ala Lys Asn
50 55 60
Ala Ala Lys Met Arg Met Asn Val Thr Lys Asn Thr Ile
65 70 75

<210> 22
<211> 73
<212> PRT
<213> Ambrosia trifida (Giant ragweed)

<400> 22
Met Lys Asn Ile Phe Met Leu Thr Leu Phe Ile Leu Ile Ile Thr Ser
1 5 10 15
Thr Ile Lys Ala Ile Gly Ser Thr Asn Glu Val Asp Glu Ile Lys Gln
20 25 30
Glu Asp Asp Gly Leu Cys Tyr Glu Gly Thr Asn Cys Gly Lys Val Gly
35 40 45
Lys Tyr Cys Cys Ser Pro Ile Gly Lys Tyr Cys Val Cys Tyr Asp Ser
50 55 60
Lys Ala Ile Cys Asn Lys Asn Cys Thr
65 70

<210> 23
<211> 154

<212> PRT

<213> um graveolens (Celery)

<400> 23

Met Gly Val Gln Thr His Val Leu Glu Leu Thr Ser Ser Val Ser Ala
1 5 10 15
Glu Lys Ile Phe Gln Gly Phe Val Ile Asp Val Asp Thr Val Leu Pro
20 25 30
Lys Ala Ala Pro Gly Ala Tyr Lys Ser Val Glu Ile Lys Gly Asp Gly
35 40 45
Gly Pro Gly Thr Leu Lys Ile Ile Thr Leu Pro Asp Gly Gly Pro Ile
50 55 60
Thr Thr Met Thr Leu Arg Ile Asp Gly Val Asn Lys Glu Ala Leu Thr
65 70 75 80
Phe Asp Tyr Ser Val Ile Asp Gly Asp Ile Leu Leu Gly Phe Ile Glu
85 90 95
Ser Ile Glu Asn His Val Val Leu Val Pro Thr Ala Asp Gly Gly Ser
100 105 110
Ile Cys Lys Thr Thr Ala Ile Phe His Thr Lys Gly Asp Ala Val Val
115 120 125
Pro Glu Glu Asn Ile Lys Tyr Ala Asn Glu Gln Asn Thr Ala Leu Phe
130 135 140
Lys Ala Leu Glu Ala Tyr Leu Ile Ala Asn
145 150

<210> 24

<211> 162

<212> PRT

<213> Apis mellifera (Honeybee)

<400> 24

Gly Ser Leu Phe Leu Leu Leu Ser Thr Ser His Gly Trp Gln Ile
1 5 10 15
Arg Asp Arg Ile Gly Asp Asn Glu Leu Glu Glu Arg Ile Ile Tyr Pro
20 25 30
Gly Thr Leu Trp Cys Gly His Gly Asn Lys Ser Ser Gly Pro Asn Glu
35 40 45
Leu Gly Arg Phe Lys His Thr Asp Ala Cys Cys Arg Thr His Asp Met
50 55 60
Cys Pro Asp Val Met Ser Ala Gly Glu Ser Lys His Gly Leu Thr Asn
65 70 75 80
Thr Ala Ser His Thr Arg Leu Ser Cys Asp Cys Asp Asp Lys Phe Tyr
85 90 95
Asp Cys Leu Lys Asn Ser Ala Asp Thr Ile Ser Ser Tyr Phe Val Gly
100 105 110
Lys Met Tyr Phe Asn Leu Ile Asp Thr Lys Cys Tyr Lys Leu Glu His
115 120 125
Pro Val Thr Gly Cys Gly Glu Arg Thr Glu Gly Arg Cys Leu His Tyr
130 135 140
Thr Val Asp Lys Ser Lys Pro Lys Val Tyr Gln Trp Phe Asp Leu Arg
145 150 155 160
Lys Tyr

<210> 25

<211> 382

<212> PRT

<213> Apis mellifera (Honeybee)

<400> 25

Met Ser Arg Pro Leu Val Ile Thr Glu Gly Met Met Ile Gly Val Leu
1 5 10 15
Leu Met Leu Ala Pro Ile Asn Ala Leu Leu Leu Gly Phe Val Gln Ser
20 25 30
Thr Pro Asp Asn Asn Lys Thr Val Arg Glu Phe Asn Val Tyr Trp Asn
35 40 45
Val Pro Thr Phe Met Cys His Lys Tyr Gly Leu Arg Phe Glu Glu Val
50 55 60
Ser Glu Lys Tyr Gly Ile Leu Gln Asn Trp Met Asp Lys Phe Arg Gly
65 70 75 80
Glu Glu Ile Ala Ile Leu Tyr Asp Pro Gly Met Phe Pro Ala Leu Leu
85 90 95
Lys Asp Pro Asn Gly Asn Val Val Ala Arg Asn Gly Gly Val Pro Gln
100 105 110
Leu Gly Asn Leu Thr Lys His Leu Gln Val Phe Arg Asp His Leu Ile
115 120 125
Asn Gln Ile Pro Asp Lys Ser Phe Pro Gly Val Gly Val Ile Asp Phe
130 135 140
Glu Ser Trp Arg Pro Ile Phe Arg Gln Asn Trp Ala Ser Leu Gln Pro
145 150 155 160
Tyr Lys Lys Leu Ser Val Glu Val Val Arg Arg Glu His Pro Phe Trp
165 170 175
Asp Asp Gln Arg Val Glu Gln Glu Ala Lys Arg Arg Phe Glu Lys Tyr
180 185 190
Gly Gln Leu Phe Met Glu Glu Thr Leu Lys Ala Ala Lys Arg Met Arg
195 200 205
Pro Ala Ala Asn Trp Gly Tyr Tyr Ala Tyr Pro Tyr Cys Tyr Asn Leu
210 215 220
Thr Pro Asn Gln Pro Ser Ala Gln Cys Glu Ala Thr Thr Met Gln Glu
225 230 235 240
Asn Asp Lys Met Ser Trp Leu Phe Glu Ser Glu Asp Val Leu Leu Pro
245 250 255
Ser Val Tyr Leu Arg Trp Asn Leu Thr Ser Gly Glu Arg Val Gly Leu
260 265 270
Val Gly Gly Arg Val Lys Glu Ala Leu Arg Ile Ala Arg Gln Met Thr
275 280 285
Thr Ser Arg Lys Lys Val Leu Pro Tyr Tyr Trp Tyr Lys Tyr Gln Asp
290 295 300
Arg Arg Asp Thr Asp Leu Ser Arg Ala Asp Leu Glu Ala Thr Leu Arg
305 310 315 320
Lys Ile Thr Asp Leu Gly Ala Asp Gly Phe Ile Ile Trp Gly Ser Ser
325 330 335
Asp Asp Ile Asn Thr Lys Ala Lys Cys Leu Gln Phe Arg Glu Tyr Leu
340 345 350
Asn Asn Glu Leu Gly Pro Ala Val Lys Arg Ile Ala Leu Asn Asn Asn
355 360 365
Ala Asn Asp Arg Leu Thr Val Asp Val Ser Val Asp Gln Val
370 375 380

<210> 26

<211> 70

<212> PRT

<213> Apis mellifera(Honeybee)Apis cerana(Ind. honeybee)

<400> 26

Met Lys Phe Leu Val Asn Val Ala Leu Val Phe Met Val Val Tyr Ile
1 5 10 15
Ser Tyr Ile Tyr Ala Ala Pro Glu Pro Glu Pro Ala Pro Glu Pro Glu
20 25 30

Ala	Glu	Ala	Asp	Ala	Glu	Ala	Asp	Pro	Glu	Ala	Gly	Ile	Gly	Ala	Val
35					40						45				
Leu	Lys	Val	Leu	Thr	Thr	Gly	Leu	Pro	Ala	Leu	Ile	Ser	Trp	Ile	Lys
50					55						60				
Arg	Lys	Arg	Gln	Gln	Gly										
65					70										

<210> 27
 <211> 614
 <212> PRT
 <213> Arachis hypogaea (Peanut)

<400> 27															
Met	Arg	Gly	Arg	Val	Ser	Pro	Leu	Met	Leu	Leu	Gly	Ile	Leu	Val	
1				5					10				15		
Leu	Ala	Ser	Val	Ser	Ala	Thr	Gln	Ala	Lys	Ser	Pro	Tyr	Arg	Lys	Thr
						20			25				30		
Glu	Asn	Pro	Cys	Ala	Gln	Arg	Cys	Leu	Gln	Ser	Cys	Gln	Gln	Glu	Pro
						35			40			45			
Asp	Asp	Leu	Lys	Gln	Lys	Ala	Cys	Glu	Ser	Arg	Cys	Thr	Lys	Leu	Glu
						50			55			60			
Tyr	Asp	Pro	Arg	Cys	Val	Tyr	Asp	Thr	Gly	Ala	Thr	Asn	Gln	Arg	His
65					70				75				80		
Pro	Pro	Gly	Glu	Arg	Thr	Arg	Gly	Arg	Gln	Pro	Gly	Asp	Tyr	Asp	Asp
						85			90			95			
Asp	Arg	Arg	Gln	Pro	Arg	Arg	Glu	Glu	Gly	Gly	Arg	Trp	Gly	Pro	Ala
						100			105			110			
Glu	Pro	Arg	Glu	Arg	Glu	Glu	Glu	Asp	Trp	Arg	Gln	Pro	Arg	Glu	
						115			120			125			
Asp	Trp	Arg	Arg	Pro	Ser	His	Gln	Gln	Pro	Arg	Lys	Ile	Arg	Pro	Glu
						130			135			140			
Gly	Arg	Glu	Gly	Glu	Gln	Glu	Trp	Gly	Thr	Pro	Gly	Ser	Glu	Val	Arg
145					150				155				160		
Glu	Glu	Thr	Ser	Arg	Asn	Asn	Pro	Phe	Tyr	Phe	Pro	Ser	Arg	Arg	Phe
							165		170			175			
Ser	Thr	Arg	Tyr	Gly	Asn	Gln	Asn	Gly	Arg	Ile	Arg	Val	Leu	Gln	Arg
						180			185			190			
Phe	Asp	Gln	Arg	Ser	Lys	Gln	Phe	Gln	Asn	Leu	Gln	Asn	His	Arg	Ile
						195			200			205			
Val	Gln	Ile	Glu	Ala	Arg	Pro	Asn	Thr	Leu	Val	Leu	Pro	Lys	His	Ala
						210			215			220			
Asp	Ala	Asp	Asn	Ile	Leu	Val	Ile	Gln	Gln	Gly	Gln	Ala	Thr	Val	Thr
225					230						235			240	
Val	Ala	Asn	Gly	Asn	Asn	Arg	Lys	Ser	Phe	Asn	Leu	Asp	Glu	Gly	His
						245			250			255			
Ala	Leu	Arg	Ile	Pro	Ser	Gly	Phe	Ile	Ser	Tyr	Ile	Leu	Asn	Arg	His
						260			265			270			
Asp	Asn	Gln	Asn	Leu	Arg	Val	Ala	Lys	Ile	Ser	Met	Pro	Val	Asn	Thr
						275			280			285			
Pro	Gly	Gln	Phe	Glu	Asp	Phe	Phe	Pro	Ala	Ser	Ser	Arg	Asp	Gln	Ser
290					295						300				
Ser	Tyr	Leu	Gln	Gly	Phe	Ser	Arg	Asn	Thr	Leu	Glu	Ala	Ala	Phe	Asn
305					310						315			320	
Ala	Glu	Phe	Asn	Glu	Ile	Arg	Arg	Val	Leu	Leu	Glu	Glu	Asn	Ala	Gly
						325			330			335			
Gly	Glu	Gln	Glu	Glu	Arg	Gly	Gln	Arg	Arg	Ser	Thr	Arg	Ser	Ser	
						340			345			350			
Asp	Asn	Glu	Gly	Val	Ile	Val	Lys	Val	Ser	Lys	Glu	His	Val	Gln	Glu
						355			360			365			
Leu	Thr	Lys	His	Ala	Lys	Ser	Val	Ser	Lys	Lys	Gly	Ser	Glu	Glu	Glu

370	375	380
Asp Ile Thr Asn Pro Ile Asn Leu Arg Asp	Gly Glu Pro Asp Leu Ser	
385 390 395 400		
Asn Asn Phe Gly Arg Leu Phe Glu Val Lys	Pro Asp Lys Lys Asn Pro	
405 410 415		
Gln Leu Gln Asp Leu Asp Met Met Leu Thr Cys Val Glu Ile Lys Glu		
420 425 430		
Gly Ala Leu Met Leu Pro His Phe Asn Ser Lys Ala Met Val Ile Val		
435 440 445		
Val Val Asn Lys Gly Thr Gly Asn Leu Glu Leu Val Ala Val Arg Lys		
450 455 460		
Glu Gln Gln Gln Arg Gly Arg Arg Glu Gln Glu Trp Glu Glu Glu Glu		
465 470 475 480		
Glu Asp Glu Glu Glu Gly Ser Asn Arg Glu Val Arg Arg Tyr Thr		
485 490 495		
Ala Arg Leu Lys Glu Gly Asp Val Phe Ile Met Pro Ala Ala His Pro		
500 505 510		
Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu Leu Gly Phe Gly Ile		
515 520 525		
Asn Ala Glu Asn Asn His Arg Ile Phe Leu Ala Gly Asp Lys Asp Asn		
530 535 540		
Val Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp Leu Ala Phe Pro Gly		
545 550 555 560		
Ser Gly Glu Gln Val Glu Lys Leu Ile Lys Asn Gln Arg Glu Ser His		
565 570 575		
Phe Val Ser Ala Arg Pro Gln Ser Gln Ser Pro Ser Ser Pro Glu Lys		
580 585 590		
Glu Asp Gln Glu Glu Asn Gln Gly Gly Lys Gly Pro Leu Leu Ser		
595 600 605		
Ile Leu Lys Ala Phe Asn		
610		

<210> 28

<211> 626

<212> PRT

<213> Arachis hypogaea (Peanut)

<400> 28

Met Arg Gly Arg Val Ser Pro Leu Met Leu Leu Leu Gly Ile Leu Val		
1 5 10 15		
Leu Ala Ser Val Ser Ala Thr His Ala Lys Ser Ser Pro Tyr Gln Lys		
20 25 30		
Lys Thr Glu Asn Pro Cys Ala Gln Arg Cys Leu Gln Ser Cys Gln Gln		
35 40 45		
Glu Pro Asp Asp Leu Lys Gln Lys Ala Cys Glu Ser Arg Cys Thr Lys		
50 55 60		
Leu Glu Tyr Asp Pro Arg Cys Val Tyr Asp Pro Arg Gly His Thr Gly		
65 70 75 80		
Thr Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln		
85 90 95		
Pro Gly Asp Tyr Asp Asp Arg Arg Gln Pro Arg Arg Glu Glu Gly		
100 105 110		
Gly Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg Glu Arg Glu Glu Asp		
115 120 125		
Trp Arg Gln Pro Arg Glu Asp Trp Arg Arg Pro Ser His Gln Gln Pro		
130 135 140		
Arg Lys Ile Arg Pro Glu Gly Arg Glu Gly Glu Gln Glu Trp Gly Thr		
145 150 155 160		
Pro Gly Ser His Val Arg Glu Glu Thr Ser Arg Asn Asn Pro Phe Tyr		
165 170 175		

Phe Pro Ser Arg Arg Phe Ser Thr Arg Tyr Gly Asn Gln Asn Gly Arg
 180 185 190
 Ile Arg Val Leu Gln Arg Phe Asp Gln Arg Ser Arg Gln Phe Gln Asn
 195 200 205
 Leu Gln Asn His Arg Ile Val Gln Ile Glu Ala Lys Pro Asn Thr Leu
 210 215 220
 Val Leu Pro Lys His Ala Asp Ala Asp Asn Ile Leu Val Ile Gln Gln
 225 230 235 240
 Gly Gln Ala Thr Val Thr Val Ala Asn Gly Asn Asn Arg Lys Ser Phe
 245 250 255
 Asn Leu Asp Glu Gly His Ala Leu Arg Ile Pro Ser Gly Phe Ile Ser
 260 265 270
 Tyr Ile Leu Asn Arg His Asp Asn Gln Asn Leu Arg Val Ala Lys Ile
 275 280 285
 Ser Met Pro Val Asn Thr Pro Gly Gln Phe Glu Asp Phe Phe Pro Ala
 290 295 300
 Ser Ser Arg Asp Gln Ser Ser Tyr Leu Gln Gly Phe Ser Arg Asn Thr
 305 310 315 320
 Leu Glu Ala Ala Phe Asn Ala Glu Phe Asn Glu Ile Arg Arg Val Leu
 325 330 335
 Leu Glu Glu Asn Ala Gly Gly Glu Gln Glu Glu Arg Gly Gln Arg Arg
 340 345 350
 Trp Ser Thr Arg Ser Ser Glu Asn Asn Glu Gly Val Ile Val Lys Val
 355 360 365
 Ser Lys Glu His Val Glu Glu Leu Thr Lys His Ala Lys Ser Val Ser
 370 375 380
 Lys Lys Gly Ser Glu Glu Glu Gly Asp Ile Thr Asn Pro Ile Asn Leu
 385 390 395 400
 Arg Glu Gly Glu Pro Asp Leu Ser Asn Asn Phe Gly Lys Leu Phe Glu
 405 410 415
 Val Lys Pro Asp Lys Lys Asn Pro Gln Leu Gln Asp Leu Asp Met Met
 420 425 430
 Leu Thr Cys Val Glu Ile Lys Glu Gly Ala Leu Met Leu Pro His Phe
 435 440 445
 Asn Ser Lys Ala Met Val Ile Val Val Val Asn Lys Gly Thr Gly Asn
 450 455 460
 Leu Glu Leu Val Ala Val Arg Lys Glu Gln Gln Arg Gly Arg Arg
 465 470 475 480
 Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Gly Ser Asn Arg Glu
 485 490 495
 Val Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly Asp Val Phe Ile Met
 500 505 510
 Pro Ala Ala His Pro Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu
 515 520 525
 Leu Gly Phe Gly Ile Asn Ala Glu Asn Asn His Arg Ile Phe Leu Ala
 530 535 540
 Gly Asp Lys Asp Asn Val Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp
 545 550 555 560
 Leu Ala Phe Pro Gly Ser Gly Glu Gln Val Glu Lys Leu Ile Lys Asn
 565 570 575
 Gln Lys Glu Ser His Phe Val Ser Ala Arg Pro Gln Ser Gln Ser Gln
 580 585 590
 Ser Pro Ser Ser Pro Glu Lys Glu Ser Pro Glu Lys Glu Asp Gln Glu
 595 600 605
 Glu Glu Asn Gln Gly Gly Lys Gly Pro Leu Leu Ser Ile Leu Lys Ala
 610 615 620
 Phe Asn
 625

<211> 131
<212> PRT
<213> *Arabidopsis thaliana* (Mouse-ear cress)

<400> 29

Met	Ser	Trp	Gln	Ser	Tyr	Val	Asp	Asp	His	Leu	Met	Cys	Asp	Val	Glu	
1									10						15	
Gly	Asn	His	Leu	Thr	Ala	Ala	Ala	Ile	Leu	Gly	Gln	Asp	Gly	Ser	Val	
								20				25			30	
Trp	Ala	Gln	Ser	Ala	Lys	Phe	Pro	Gln	Leu	Lys	Pro	Gln	Glu	Ile	Asp	
								35			40			45		
Gly	Ile	Lys	Lys	Asp	Phe	Glu	Glu	Pro	Gly	Phe	Leu	Ala	Pro	Thr	Gly	
								50			55			60		
Leu	Phe	Leu	Gly	Gly	Glu	Lys	Tyr	Met	Val	Ile	Gln	Gly	Glu	Gln	Gly	
								65			70			75		80
Ala	Val	Ile	Arg	Gly	Lys	Lys	Gly	Pro	Gly	Gly	Val	Thr	Ile	Lys	Lys	
								85			90			95		
Thr	Asn	Gln	Ala	Leu	Val	Phe	Gly	Phe	Tyr	Asp	Glu	Pro	Met	Thr	Gly	
								100			105			110		
Gly	Gln	Cys	Asn	Leu	Val	Val	Glu	Arg	Leu	Gly	Asp	Tyr	Leu	Ile	Glu	
								115			120			125		
Ser	Glu	Leu														
								130								

<210> 30
<211> 176
<212> PRT
<213> *Aspergillus restrictus* *Aspergillus fumigatus*

<400> 30

Met	Val	Ala	Ile	Lys	Asn	Leu	Phe	Leu	Leu	Ala	Ala	Thr	Ala	Val	Ser	
1										10					15	
Val	Leu	Ala	Ala	Pro	Ser	Pro	Leu	Asp	Ala	Arg	Ala	Thr	Trp	Thr	Cys	
									20			25			30	
Ile	Asn	Gln	Gln	Leu	Asn	Pro	Lys	Thr	Asn	Lys	Trp	Glu	Asp	Lys	Arg	
								35			40			45		
Leu	Leu	Tyr	Ser	Gln	Ala	Lys	Ala	Glu	Ser	Asn	Ser	His	His	Ala	Pro	
								50			55			60		
Leu	Ser	Asp	Gly	Lys	Thr	Gly	Ser	Ser	Tyr	Pro	His	Trp	Phe	Thr	Asn	
								65			70			75		80
Gly	Tyr	Asp	Gly	Asn	Gly	Lys	Leu	Ile	Lys	Gly	Arg	Thr	Pro	Ile	Lys	
								85			90			95		
Phe	Gly	Lys	Ala	Asp	Cys	Asp	Arg	Pro	Pro	Lys	His	Ser	Gln	Asn	Gly	
								100			105			110		
Met	Gly	Lys	Asp	Asp	His	Tyr	Leu	Leu	Glu	Phe	Pro	Thr	Phe	Pro	Asp	
								115			120			125		
Gly	His	Asp	Tyr	Lys	Phe	Asp	Ser	Lys	Lys	Pro	Lys	Glu	Asp	Pro	Gly	
								130			135			140		
Pro	Ala	Arg	Val	Ile	Tyr	Thr	Tyr	Pro	Asn	Lys	Val	Phe	Cys	Gly	Ile	
								145			150			155		160
Val	Ala	His	Gln	Arg	Gly	Asn	Gln	Gly	Asp	Leu	Arg	Leu	Cys	Ser	His	
								165			170			175		

<210> 31
<211> 310
<212> PRT
<213> *Aspergillus fumigatus* (*Sartorya fumigata*)

<400> 31

Met Ala Ala Leu Leu Arg Leu Ala Val Leu Leu Pro Leu Ala Ala Pro
 1 5 10 15
 Leu Val Ala Thr Leu Pro Thr Ser Pro Val Pro Ile Ala Ala Arg Ala
 20 25 30
 Thr Pro His Glu Pro Val Phe Phe Ser Trp Asp Ala Gly Ala Val Thr
 35 40 45
 Ser Phe Pro Ile His Ser Ser Cys Asn Ala Thr Gln Arg Arg Gln Ile
 50 55 60
 Glu Ala Gly Leu Asn Glu Ala Val Glu Leu Ala Arg His Ala Lys Ala
 65 70 75 80
 His Ile Leu Arg Trp Gly Asn Glu Ser Glu Ile Tyr Arg Lys Tyr Phe
 85 90 95
 Gly Asn Arg Pro Thr Met Glu Ala Val Gly Ala Tyr Asp Val Ile Val
 100 105 110
 Asn Gly Asp Lys Ala Asn Val Leu Phe Arg Cys Asp Asn Pro Asp Gly
 115 120 125
 Asn Cys Ala Leu Glu Gly Trp Gly Gly His Trp Arg Gly Ala Asn Ala
 130 135 140
 Thr Ser Glu Thr Val Ile Cys Asp Arg Ser Tyr Thr Thr Arg Arg Trp
 145 150 155 160
 Leu Val Ser Met Cys Ser Gln Gly Tyr Thr Val Ala Gly Ser Glu Thr
 165 170 175
 Asn Thr Phe Trp Ala Ser Asp Leu Met His Arg Leu Tyr His Val Pro
 180 185 190
 Ala Val Gly Gln Gly Trp Val Asp His Phe Ala Asp Gly Tyr Asp Glu
 195 200 205
 Val Ile Ala Leu Ala Lys Ser Asn Gly Thr Glu Ser Thr His Asp Ser
 210 215 220
 Glu Ala Phe Glu Tyr Phe Ala Leu Glu Ala Tyr Ala Phe Asp Ile Ala
 225 230 235 240
 Ala Pro Gly Val Gly Cys Ala Gly Glu Ser His Gly Pro Asp Gln Gly
 245 250 255
 His Asp Thr Gly Ser Ala Ser Ala Pro Ala Ser Thr Ser Thr Ser Ser
 260 265 270
 Ser Ser Ser Gly Ser Gly Ala Thr Thr Thr Pro Thr Asp Ser
 275 280 285
 Pro Ser Ala Thr Ile Asp Val Pro Ser Asn Cys His Thr His Glu Gly
 290 295 300
 Gly Gln Leu His Cys Thr
 305 310

<210> 32
 <211> 168
 <212> PRT
 <213> Aspergillus fumigatus (Sartorya fumigata)

<400> 32

Met Ser Gly Leu Lys Ala Gly Asp Ser Phe Pro Ser Asp Val Val Phe
 1 5 10 15
 Ser Tyr Ile Pro Trp Ser Glu Asp Lys Gly Glu Ile Thr Ala Cys Gly
 20 25 30
 Ile Pro Ile Asn Tyr Asn Ala Ser Lys Glu Trp Ala Asp Lys Lys Val
 35 40 45
 Ile Leu Phe Ala Leu Pro Gly Ala Phe Thr Pro Val Cys Ser Ala Arg
 50 55 60
 His Val Pro Glu Tyr Ile Glu Lys Leu Pro Glu Ile Arg Ala Lys Gly
 65 70 75 80
 Val Asp Val Val Ala Val Leu Ala Tyr Asn Asp Ala Tyr Val Met Ser
 85 90 95
 Ala Trp Gly Lys Ala Asn Gln Val Thr Gly Asp Asp Ile Leu Phe Leu

100 105 110
Ser Asp Pro Asp Ala Arg Phe Ser Lys Ser Ile Gly Trp Ala Asp Glu
115 120 125
Glu Gly Arg Thr Lys Arg Tyr Ala Leu Val Ile Asp His Gly Lys Ile
130 135 140
Thr Tyr Ala Ala Leu Glu Pro Ala Lys Asn His Leu Glu Phe Ser Ser
145 150 155 160
Ala Glu Thr Val Leu Lys His Leu
165

BL
Conf.
<210> 33

<211> 152

<212> PRT

<213> Aspergillus fumigatus (Sartorya fumigata)

<400> 33

Met Lys Phe Thr Thr Pro Ile Ser Leu Ile Ser Leu Phe Val Ser Ser
1 5 10 15
Ala Leu Ala Ala Pro Thr Pro Glu Asn Glu Ala Arg Asp Ala Ile Pro
20 25 30
Val Ser Val Ser Tyr Asp Pro Arg Tyr Asp Asn Ala Gly Thr Ser Met
35 40 45
Asn Asp Val Ser Cys Ser Asn Gly Val Asn Gly Leu Val Thr Lys Trp
50 55 60
Pro Thr Phe Gly Ser Val Pro Gly Phe Ala Arg Ile Gly Gly Ala Pro
65 70 75 80
Thr Ile Pro Gly Trp Asn Ser Pro Asn Cys Gly Lys Cys Tyr Lys Leu
85 90 95
Gln Tyr Glu Gln Asn Thr Ile Tyr Val Thr Ala Ile Asp Ala Ala Pro
100 105 110
Gly Gly Phe Asn Ile Ala Thr Ser Ala Met Asp Gln Leu Thr Asn Gly
115 120 125
Met Ala Val Glu Leu Gly Arg Val Gln Ala Thr Tyr Glu Glu Ala Asp
130 135 140
Pro Ser His Cys Ala Ser Gly Val
145 150

<210> 34

<211> 159

<212> PRT

<213> Betula verrucosa (White birch) (Betula pendula)

<400> 34

Gly Val Phe Asn Tyr Glu Thr Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Ile Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
115 120 125

Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 35
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 35
Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Glu Gly Asp Thr Leu Ile Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Pro Glu Gly Ser Pro Phe
50 55 60
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp His Ala Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Met Ile Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
85 90 95
Lys Ile Cys Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp Gln Glu Met
115 120 125
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 36
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 36
Gly Val Phe Asn Tyr Glu Ile Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Val Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Cys
100 105 110
Val Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asn His Glu Val
115 120 125
Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 37
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 37
Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Ile Pro Phe
50 55 60
Lys Tyr Val Lys Gly Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asn Gly Gly Ser
100 105 110
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
115 120 125
Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 38
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 38
Gly Val Phe Asn Tyr Glu Ile Glu Ala Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asn Gly Gly Ser
100 105 110
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
115 120 125
Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 39
<211> 159
<212> PRT
<213> Betula verrucosa (White birch) (Betula pendula)

<400> 39

Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Glu Gly Asp Asn Leu Ile Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Asn Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Asn Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Cys
100 105 110
Val Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asn His Glu Val
115 120 125
Lys Ala Glu Gln Val Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 40

<211> 159

<212> PRT

<213> Betula verrucosa (White birch) (Betula pendula)

<400> 40

Gly Val Phe Asn Tyr Glu Thr Glu Ala Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asp Asn Leu Phe Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Ser Ser Val Glu Asn Ile Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Ser Phe Pro Glu Gly Phe Pro Phe
50 55 60
Lys Tyr Val Lys Asp Arg Val Asp Glu Val Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Val Ile Glu Gly Gly Pro Val Gly Asp Thr Leu Glu
85 90 95
Lys Ile Ser Asn Glu Ile Lys Ile Val Ala Thr Pro Asn Gly Gly Ser
100 105 110
Ile Leu Lys Ile Asn Asn Lys Tyr His Thr Lys Gly Asp His Glu Val
115 120 125
Lys Ala Glu Gln Ile Lys Ala Ser Lys Glu Met Gly Glu Thr Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 41

<211> 159

<212> PRT

<213> Betula verrucosa (White birch) (Betula pendula)

<400> 41

Gly Val Phe Asn Tyr Glu Ser Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Glu Gly Asp Thr Leu Ile Pro Lys

	20		25		30										
Val	Ala	Pro	Gln	Ala	Ile	Ser	Ser	Val	Glu	Asn	Ile	Glu	Gly	Asn	Gly
								35	40			45			
Gly	Pro	Gly	Thr	Ile	Lys	Lys	Ile	Thr	Phe	Pro	Glu	Gly	Ser	Pro	Phe
								50	55			60			
Lys	Tyr	Val	Lys	Glu	Arg	Val	Asp	Glu	Val	Asp	His	Ala	Asn	Phe	Lys
								65	70			75			80
Tyr	Ser	Tyr	Ser	Met	Ile	Glu	Gly	Gly	Ala	Leu	Gly	Asp	Thr	Leu	Glu
								85	90			95			
Lys	Ile	Cys	Asn	Glu	Ile	Lys	Ile	Val	Ala	Thr	Pro	Asp	Gly	Gly	Ser
								100	105			110			
Ile	Leu	Lys	Ile	Ser	Asn	Lys	Tyr	His	Thr	Lys	Gly	Asp	His	Glu	Met
								115	120			125			
Lys	Ala	Glu	His	Met	Lys	Ala	Ile	Lys	Glu	Lys	Gly	Glu	Ala	Leu	Leu
								130	135			140			
Arg	Ala	Val	Glu	Ser	Tyr	Leu	Leu	Ala	His	Ser	Asp	Ala	Tyr	Asn	
								145	150			155			

<210> 42

<211> 159

<212> PRT

<213> Betula verrucosa (White birch) (Betula pendula)

<400> 42

Gly	Val	Phe	Asn	Tyr	Glu	Thr	Glu	Ala	Thr	Ser	Val	Ile	Pro	Ala	Ala
1								5	10			15			
Arg	Met	Phe	Lys	Ala	Phe	Ile	Leu	Asp	Gly	Asp	Lys	Leu	Val	Pro	Lys
								20	25			30			
Val	Ala	Pro	Gln	Ala	Ile	Ser	Ser	Val	Glu	Asn	Ile	Glu	Gly	Asn	Gly
								35	40			45			
Gly	Pro	Gly	Thr	Ile	Lys	Lys	Ile	Asn	Phe	Pro	Glu	Gly	Phe	Pro	Phe
								50	55			60			
Lys	Tyr	Val	Lys	Asp	Arg	Val	Asp	Glu	Val	Asp	His	Thr	Asn	Phe	Lys
								65	70			75			80
Tyr	Asn	Tyr	Ser	Val	Ile	Glu	Gly	Gly	Pro	Val	Gly	Asp	Thr	Leu	Glu
								85	90			95			
Lys	Ile	Ser	Asn	Glu	Ile	Lys	Ile	Val	Ala	Thr	Pro	Asp	Gly	Gly	Cys
								100	105			110			
Val	Leu	Lys	Ile	Ser	Asn	Lys	Tyr	His	Thr	Lys	Gly	Asn	His	Glu	Val
								115	120			125			
Lys	Ala	Glu	Gln	Val	Lys	Ala	Ser	Lys	Glu	Met	Gly	Glu	Thr	Leu	Leu
								130	135			140			
Arg	Ala	Val	Glu	Ser	Tyr	Leu	Leu	Ala	His	Ser	Asp	Ala	Tyr	Asn	
								145	150			155			

<210> 43

<211> 159

<212> PRT

<213> Betula verrucosa (White birch) (Betula pendula)

<400> 43

Gly	Val	Phe	Asn	Tyr	Glu	Ser	Glu	Thr	Thr	Ser	Val	Ile	Pro	Ala	Ala
1								5	10			15			
Arg	Leu	Phe	Lys	Ala	Phe	Ile	Leu	Asp	Gly	Asp	Asn	Leu	Ile	Pro	Lys
								20	25			30			
Val	Ala	Pro	Gln	Ala	Ile	Ser	Ser	Val	Glu	Asn	Ile	Glu	Gly	Asn	Gly
								35	40			45			
Gly	Pro	Gly	Thr	Ile	Lys	Lys	Ile	Thr	Phe	Pro	Glu	Gly	Ser	Pro	Phe
								50	55			60			

Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp His Ala Asn Phe Lys
65 70 75 80
Tyr Ser Tyr Ser Met Ile Glu Gly Gly Ala Leu Gly Asp Thr Leu Glu
85 90 95
Lys Ile Cys Asn Glu Ile Lys Ile Val Ala Thr Pro Asp Gly Gly Ser
100 105 110
Ile Leu Lys Ile Ser Asn Lys Tyr His Thr Lys Gly Asp His Glu Met
115 120 125
Lys Ala Glu His Met Lys Ala Ile Lys Glu Lys Gly Glu Ala Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Ser Asp Ala Tyr Asn
145 150 155

<210> 44

<211> 133

<212> PRT

<213> Betula verrucosa (White birch) (Betula pendula)

<400> 44

Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Asp Ile Asp
1 5 10 15
Gly Gln Ala Ser Asn Ser Leu Ala Ser Ala Ile Val Gly His Asp Gly
20 25 30
Ser Val Trp Ala Gln Ser Ser Phe Pro Gln Phe Lys Pro Gln Glu
35 40 45
Ile Thr Gly Ile Met Lys Asp Phe Glu Glu Pro Gly His Leu Ala Pro
50 55 60
Thr Gly Leu His Leu Gly Gly Ile Lys Tyr Met Val Ile Gln Gly Glu
65 70 75 80
Ala Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile
85 90 95
Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val
100 105 110
Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
115 120 125
Ile Asp Gln Gly Leu
130

<210> 45

<211> 205

<212> PRT

<213> Betula verrucosa (White birch) (Betula pendula)

<400> 45

Met Pro Cys Ser Thr Glu Ala Met Glu Lys Ala Gly His Gly His Ala
1 5 10 15
Ser Thr Pro Arg Lys Arg Ser Leu Ser Asn Ser Ser Phe Arg Leu Arg
20 25 30
Ser Glu Ser Leu Asn Thr Leu Arg Leu Arg Arg Ile Phe Asp Leu Phe
35 40 45
Asp Lys Asn Ser Asp Gly Ile Ile Thr Val Asp Glu Leu Ser Arg Ala
50 55 60
Leu Asn Leu Leu Gly Leu Glu Thr Asp Leu Ser Glu Leu Glu Ser Thr
65 70 75 80
Val Lys Ser Phe Thr Arg Glu Gly Asn Ile Gly Leu Gln Phe Glu Asp
85 90 95
Phe Ile Ser Leu His Gln Ser Leu Asn Asp Ser Tyr Phe Ala Tyr Gly
100 105 110
Gly Glu Asp Glu Asp Asp Asn Glu Glu Asp Met Arg Lys Ser Ile Leu

115	120	125
Ser Gln Glu Glu Ala Asp	Ser Phe Gly Gly Phe Lys Val Phe Asp Glu	
130	135	140
Asp Gly Asp Gly Tyr Ile Ser Ala Arg Glu Leu Gln Met Val Leu Gly		
145	150	155
Lys Leu Gly Phe Ser Glu Gly Ser Glu Ile Asp Arg Val Glu Lys Met		
165	170	175
Ile Val Ser Val Asp Ser Asn Arg Asp Gly Arg Val Asp Phe Phe Glu		
180	185	190
Phe Lys Asp Met Met Arg Ser Val Leu Val Arg Ser Ser		
195	200	205

<210> 46

<211> 352

<212> PRT

<213> Blattella germanica (German cockroach)

<400> 46

Met Ile Gly Leu Lys Leu Val Thr Val Leu Phe Ala Val Ala Thr Ile			
1	5	10	15
Thr His Ala Ala Glu Leu Gln Arg Val Pro Leu Tyr Lys Leu Val His			
20	25	30	
Val Phe Ile Asn Thr Gln Tyr Ala Gly Ile Thr Lys Ile Gly Asn Gln			
35	40	45	
Asn Phe Leu Thr Val Phe Asp Ser Thr Ser Cys Asn Val Val Val Ala			
50	55	60	
Ser Gln Glu Cys Val Gly Gly Ala Cys Val Cys Pro Asn Leu Gln Lys			
65	70	75	80
Tyr Glu Lys Leu Lys Pro Lys Tyr Ile Ser Asp Gly Asn Val Gln Val			
85	90	95	
Lys Phe Phe Asp Thr Gly Ser Ala Val Gly Arg Gly Ile Glu Asp Ser			
100	105	110	
Leu Thr Ile Ser Asn Leu Thr Thr Ser Gln Gln Asp Ile Val Leu Ala			
115	120	125	
Asp Glu Leu Ser Gln Glu Val Cys Ile Leu Ser Ala Asp Val Val Val			
130	135	140	
Gly Ile Ala Ala Pro Gly Cys Pro Asn Ala Leu Lys Gly Lys Thr Val			
145	150	155	160
Leu Glu Asn Phe Val Glu Glu Asn Leu Ile Ala Pro Val Phe Ser Ile			
165	170	175	
His His Ala Arg Phe Gln Asp Gly Glu His Phe Gly Glu Ile Ile Phe			
180	185	190	
Gly Gly Ser Asp Trp Lys Tyr Val Asp Gly Glu Phe Thr Tyr Val Pro			
195	200	205	
Leu Val Gly Asp Asp Ser Trp Lys Phe Arg Leu Asp Gly Val Lys Ile			
210	215	220	
Gly Asp Thr Thr Val Ala Pro Ala Gly Thr Gln Ala Ile Ile Asp Thr			
225	230	235	240
Ser Lys Ala Ile Ile Val Gly Pro Lys Ala Tyr Val Asn Pro Ile Asn			
245	250	255	
Glu Ala Ile Gly Cys Val Val Glu Lys Thr Thr Thr Arg Arg Ile Cys			
260	265	270	
Lys Leu Asp Cys Ser Lys Ile Pro Ser Leu Pro Asp Val Thr Phe Val			
275	280	285	
Ile Asn Gly Arg Asn Phe Asn Ile Ser Ser Gln Tyr Tyr Ile Gln Gln			
290	295	300	
Asn Gly Asn Leu Cys Tyr Ser Gly Phe Gln Pro Cys Gly His Ser Asp			
305	310	315	320
His Phe Phe Ile Gly Asp Phe Phe Val Asp His Tyr Tyr Ser Glu Phe			
325	330	335	

Asn Trp Glu Asn Lys Thr Met Gly Phe Gly Arg Ser Val Glu Ser Val
340 345 350

<210> 47
<211> 182
<212> PRT
<213> Blattella germanica (German cockroach)

<400> 47
Ala Val Leu Ala Leu Cys Ala Thr Asp Thr Leu Ala Asn Glu Asp Cys
1 5 10 15
Phe Arg His Glu Ser Leu Val Pro Asn Leu Asp Tyr Glu Arg Phe Arg
20 25 30
Gly Ser Trp Ile Ile Ala Ala Gly Thr Ser Glu Ala Leu Thr Gln Tyr
35 40 45
Lys Cys Trp Ile Asp Arg Phe Ser Tyr Asp Asp Ala Leu Val Ser Lys
50 55 60
Tyr Thr Asp Ser Gln Gly Lys Asn Arg Thr Thr Ile Arg Gly Arg Thr
65 70 75 80
Lys Phe Glu Gly Asn Lys Phe Thr Ile Asp Tyr Asn Asp Lys Gly Lys
85 90 95
Ala Phe Ser Ala Pro Tyr Ser Val Leu Ala Thr Asp Tyr Glu Asn Tyr
100 105 110
Ala Ile Val Glu Gly Cys Pro Ala Ala Asn Gly His Val Ile Tyr
115 120 125
Val Gln Ile Arg Phe Ser Val Arg Arg Phe His Pro Lys Leu Gly Asp
130 135 140
Lys Glu Met Ile Gln His Tyr Thr Leu Asp Gln Val Asn Gln His Lys
145 150 155 160
Lys Ala Ile Glu Glu Asp Leu Lys His Phe Asn Leu Lys Tyr Glu Asp
165 170 175
Leu His Ser Thr Cys His
180

<210> 48
<211> 203
<212> PRT
<213> Blattella germanica (German cockroach)

<400> 48
Ala Pro Ser Tyr Lys Leu Thr Tyr Cys Pro Val Lys Ala Leu Gly Glu
1 5 10 15
Pro Ile Arg Phe Leu Leu Ser Tyr Gly Glu Lys Asp Phe Glu Asp Tyr
20 25 30
Arg Phe Gln Glu Gly Asp Trp Pro Asn Leu Lys Pro Ser Met Pro Phe
35 40 45
Gly Lys Thr Pro Val Leu Glu Ile Asp Gly Lys Gln Thr His Gln Ser
50 55 60
Val Ala Ile Ser Arg Tyr Leu Gly Lys Gln Phe Gly Leu Ser Gly Lys
65 70 75 80
Asp Asp Trp Glu Asn Leu Glu Ile Asp Met Ile Val Asp Thr Ile Ser
85 90 95
Asp Phe Arg Ala Ala Ile Ala Asn Tyr His Tyr Asp Ala Asp Glu Asn
100 105 110
Ser Lys Gln Lys Lys Trp Asp Pro Leu Lys Lys Glu Thr Ile Pro Tyr
115 120 125
Tyr Thr Lys Lys Phe Asp Glu Val Val Lys Ala Asn Gly Gly Tyr Leu
130 135 140
Ala Ala Gly Lys Leu Thr Trp Ala Asp Phe Tyr Phe Val Ala Ile Leu

145 150 155 160
Asp Tyr Leu Asn His Met Ala Lys Glu Asp Leu Val Ala Asn Gln Pro
165 170 175
Asn Leu Lys Ala Leu Arg Glu Lys Val Leu Gly Leu Pro Ala Ile Lys
180 185 190
Ala Trp Val Ala Lys Arg Pro Pro Thr Asp Leu
195 200

<210> 49
<211> 144
<212> PRT
<213> Blomia tropicalis (Mite)

<400> 49
Met Lys Ser Val Leu Ile Phe Leu Val Ala Ile Ala Leu Phe Ser Ala
1 5 10 15
Asn Ile Val Ser Ala Asp Glu Gln Thr Thr Arg Gly Arg His Thr Glu
20 25 30
Pro Asp Asp His His Glu Lys Pro Thr Thr Gln Cys Thr His Glu Glu
35 40 45
Thr Thr Ser Thr Gln His His Glu Glu Val Val Thr Thr Gln Thr
50 55 60
Pro His His Glu Glu Lys Thr Thr Glu Glu Thr His His Ser Asp
65 70 75 80
Asp Leu Ile Val His Glu Gly Gly Lys Thr Tyr His Val Val Cys His
85 90 95
Glu Glu Gly Pro Ile His Ile Gln Glu Met Cys Asn Lys Tyr Ile Ile
100 105 110
Cys Ser Lys Ser Gly Ser Leu Trp Tyr Ile Thr Val Met Pro Cys Ser
115 120 125
Ile Gly Thr Lys Phe Asp Pro Ile Ser Arg Asn Cys Val Leu Asp Asn
130 135 140

<210> 50
<211> 172
<212> PRT
<213> Bos taurus (Bovine)

<400> 50
Met Lys Ala Val Phe Leu Thr Leu Leu Phe Gly Leu Val Cys Thr Ala
1 5 10 15
Gln Glu Thr Pro Ala Glu Ile Asp Pro Ser Lys Ile Pro Gly Glu Trp
20 25 30
Arg Ile Ile Tyr Ala Ala Ala Asp Asn Lys Asp Lys Ile Val Glu Gly
35 40 45
Gly Pro Leu Arg Asn Tyr Tyr Arg Arg Ile Glu Cys Ile Asn Asp Cys
50 55 60
Glu Ser Leu Ser Ile Thr Phe Tyr Leu Lys Asp Gln Gly Thr Cys Leu
65 70 75 80
Leu Leu Thr Glu Val Ala Lys Arg Gln Glu Gly Tyr Val Tyr Val Leu
85 90 95
Glu Phe Tyr Gly Thr Asn Thr Leu Glu Val Ile His Val Ser Glu Asn
100 105 110
Met Leu Val Thr Tyr Val Glu Asn Tyr Asp Gly Glu Arg Ile Thr Lys
115 120 125
Met Thr Glu Gly Leu Ala Lys Gly Thr Ser Phe Thr Pro Glu Glu Leu
130 135 140
Glu Lys Tyr Gln Gln Leu Asn Ser Glu Arg Gly Val Pro Asn Glu Asn
145 150 155 160

Ile Glu Asn Leu Ile Lys Thr Asp Asn Cys Pro Pro
165 170

<210> 51
<211> 178
<212> PRT
<213> Bos taurus (Bovine)

<400> 51
Met Lys Cys Leu Leu Leu Ala Leu Ala Leu Thr Cys Gly Ala Gln Ala
1 5 10 15
Leu Ile Val Thr Gln Thr Met Lys Gly Leu Asp Ile Gln Lys Val Ala
20 25 30
Gly Thr Trp Tyr Ser Leu Ala Met Ala Ala Ser Asp Ile Ser Leu Leu
35 40 45
Asp Ala Gln Ser Ala Pro Leu Arg Val Tyr Val Glu Glu Leu Lys Pro
50 55 60
Thr Pro Glu Gly Asp Leu Glu Ile Leu Leu Gln Lys Trp Glu Asn Gly
65 70 75 80
Glu Cys Ala Gln Lys Lys Ile Ile Ala Glu Lys Thr Lys Ile Pro Ala
85 90 95
Val Phe Lys Ile Asp Ala Leu Asn Glu Asn Lys Val Leu Val Leu Asp
100 105 110
Thr Asp Tyr Lys Tyr Leu Leu Phe Cys Met Glu Asn Ser Ala Glu
115 120 125
Pro Glu Gln Ser Leu Ala Cys Gln Cys Leu Val Arg Thr Pro Glu Val
130 135 140
Asp Asp Glu Ala Leu Glu Lys Phe Asp Lys Ala Leu Lys Ala Leu Pro
145 150 155 160
Met His Ile Arg Leu Ser Phe Asn Pro Thr Gln Leu Glu Glu Gln Cys
165 170 175
His Ile

<210> 52
<211> 129
<212> PRT
<213> Brassica juncea (Leaf mustard) (Indian mustard)

<400> 52
Ala Gly Pro Phe Arg Phe Pro Arg Cys Arg Lys Glu Phe Gln Gln Ala
1 5 10 15
Gln His Leu Arg Ala Cys Gln Gln Trp Leu His Lys Gln Ala Met Gln
20 25 30
Ser Gly Ser Gly Pro Gln Pro Gln Gly Pro Gln Gln Arg Pro Pro Leu
35 40 45
Leu Gln Gln Cys Cys Asn Glu Leu His Gln Glu Glu Pro Leu Cys Val
50 55 60
Cys Pro Thr Leu Lys Gly Ala Ser Lys Ala Val Lys Gln Gln Ile Arg
65 70 75 80
Gln Gln Gly Gln Gln Gln Gly Gln Gln Gln Gln Leu Gln His Glu
85 90 95
Ile Ser Arg Ile Tyr Gln Thr Ala Thr His Leu Pro Arg Val Cys Asn
100 105 110
Ile Pro Arg Val Ser Ile Cys Pro Phe Gln Lys Thr Met Pro Gly Pro
115 120 125
Ser

<210> 53
<211> 350
<212> PRT
<213> Candida albicans (Yeast)

<400> 53
Met Ser Glu Gln Ile Pro Lys Thr Gln Lys Ala Val Val Phe Asp Thr
1 5 10 15
Asn Gly Gly Gln Leu Val Tyr Lys Asp Tyr Pro Val Pro Thr Pro Lys
20 25 30
Pro Asn Glu Leu Leu Ile His Val Lys Tyr Ser Gly Val Cys His Thr
35 40 45
Asp Leu His Ala Arg Lys Gly Asp Trp Pro Leu Ala Thr Lys Leu Pro
50 55 60
Leu Val Gly Gly His Glu Gly Ala Gly Val Val Gly Met Gly Glu
65 70 75 80
Asn Val Lys Gly Trp Lys Ile Gly Asp Phe Ala Gly Ile Lys Trp Leu
85 90 95
Asn Gly Ser Cys Met Ser Cys Glu Phe Cys Gln Gln Gly Ala Glu Pro
100 105 110
Asn Cys Gly Glu Ala Asp Leu Ser Gly Tyr Thr His Asp Gly Ser Phe
115 120 125
Glu Gln Tyr Ala Thr Ala Asp Ala Val Gln Ala Ala Lys Ile Pro Ala
130 135 140
Gly Thr Asp Leu Ala Asn Val Ala Pro Ile Leu Cys Ala Gly Val Thr
145 150 155 160
Val Tyr Lys Ala Leu Lys Thr Ala Asp Leu Ala Ala Gly Gln Trp Val
165 170 175
Ala Ile Ser Gly Ala Gly Gly Leu Gly Ser Leu Ala Val Gln Tyr
180 185 190
Ala Arg Ala Met Gly Leu Arg Val Val Ala Ile Asp Gly Gly Asp Glu
195 200 205
Lys Gly Glu Phe Val Lys Ser Leu Gly Ala Glu Ala Tyr Val Asp Phe
210 215 220
Thr Lys Asp Lys Asp Ile Val Glu Ala Val Lys Lys Ala Thr Asp Gly
225 230 235 240
Gly Pro His Gly Ala Ile Asn Val Ser Val Ser Glu Lys Ala Ile Asp
245 250 255
Gln Ser Val Glu Tyr Val Arg Pro Leu Gly Lys Val Val Leu Val Gly
260 265 270
Leu Pro Ala His Ala Lys Val Thr Ala Pro Val Phe Asp Ala Val Val
275 280 285
Lys Ser Ile Glu Ile Lys Gly Ser Tyr Val Gly Asn Arg Lys Asp Thr
290 295 300
Ala Glu Ala Ile Asp Phe Phe Ser Arg Gly Leu Ile Lys Cys Pro Ile
305 310 315 320
Lys Ile Val Gly Leu Ser Asp Leu Pro Glu Val Phe Lys Leu Met Glu
325 330 335
Glu Gly Lys Ile Leu Gly Arg Tyr Val Leu Asp Thr Ser Lys
340 345 350

<210> 54
<211> 174
<212> PRT
<213> Canis familiaris (Dog)

<400> 54
Met Lys Thr Leu Leu Leu Thr Ile Gly Phe Ser Leu Ile Ala Ile Leu
1 5 10 15

Gln Ala Gln Asp Thr Pro Ala Leu Gly Lys Asp Thr Val Ala Val Ser
20 25 30
Gly Lys Trp Tyr Leu Lys Ala Met Thr Ala Asp Gln Glu Val Pro Glu
35 40 45
Lys Pro Asp Ser Val Thr Pro Met Ile Leu Lys Ala Gln Lys Gly Gly
50 55 60
Asn Leu Glu Ala Lys Ile Thr Met Leu Thr Asn Gly Gln Cys Gln Asn
65 70 75 80
Ile Thr Val Val Leu His Lys Thr Ser Glu Pro Gly Lys Tyr Thr Ala
85 90 95
Tyr Glu Gly Gln Arg Val Val Phe Ile Gln Pro Ser Pro Val Arg Asp
100 105 110
His Tyr Ile Leu Tyr Cys Glu Gly Glu Leu His Gly Arg Gln Ile Arg
115 120 125
Met Ala Lys Leu Leu Gly Arg Asp Pro Glu Gln Ser Gln Glu Ala Leu
130 135 140
Glu Asp Phe Arg Glu Phe Ser Arg Ala Lys Gly Leu Asn Gln Glu Ile
145 150 155 160
Leu Glu Leu Ala Gln Ser Glu Thr Cys Ser Pro Gly Gly Gln
165 170

<210> 55

<211> 180

<212> PRT

<213> Canis familiaris (Dog)

<400> 55

Met Gln Leu Leu Leu Leu Thr Val Gly Leu Ala Leu Ile Cys Gly Leu
1 5 10 15
Gln Ala Gln Glu Gly Asn His Glu Glu Pro Gln Gly Gly Leu Glu Glu
20 25 30
Leu Ser Gly Arg Trp His Ser Val Ala Leu Ala Ser Asn Lys Ser Asp
35 40 45
Leu Ile Lys Pro Trp Gly His Phe Arg Val Phe Ile His Ser Met Ser
50 55 60
Ala Lys Asp Gly Asn Leu His Gly Asp Ile Leu Ile Pro Gln Asp Gly
65 70 75 80
Gln Cys Glu Lys Val Ser Leu Thr Ala Phe Lys Thr Ala Thr Ser Asn
85 90 95
Lys Phe Asp Leu Glu Tyr Trp Gly His Asn Asp Leu Tyr Leu Ala Glu
100 105 110
Val Asp Pro Lys Ser Tyr Leu Ile Leu Tyr Met Ile Asn Gln Tyr Asn
115 120 125
Asp Asp Thr Ser Leu Val Ala His Leu Met Val Arg Asp Leu Ser Arg
130 135 140
Gln Gln Asp Phe Leu Pro Ala Phe Glu Ser Val Cys Glu Asp Ile Gly
145 150 155 160
Leu His Lys Asp Gln Ile Val Val Leu Ser Asp Asp Asp Arg Cys Gln
165 170 175
Gly Ser Arg Asp
180

<210> 56

<211> 159

<212> PRT

<213> Carpinus betulus (Hornbeam)

<400> 56

Gly Val Phe Asn Tyr Glu Ala Glu Thr Pro Ser Val Ile Pro Ala Ala

1 5 10 15
Arg Leu Phe Lys Ser Tyr Val Leu Asp Gly Asp Lys Leu Ile Pro Lys
20 25 30
Val Ala Pro Gln Val Ile Ser Ser Val Glu Asn Val Gly Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Asn Ile Thr Phe Ala Glu Gly Ile Pro Phe
50 55 60
Lys Phe Val Lys Glu Arg Val Asp Glu Val Asp Asn Ala Asn Phe Lys
65 70 75 80
Tyr Asn Tyr Thr Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
85 90 95
Lys Val Ser His Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser
100 105 110
Ile Val Lys Ile Ser Ser Lys Phe His Ala Lys Gly Tyr His Glu Val
115 120 125
Asn Ala Glu Lys Met Lys Gly Ala Lys Glu Met Ala Glu Lys Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Thr Ala Glu Tyr Asn
145 150 155

<210> 57

<211> 159

<212> PRT

<213> *Carpinus betulus* (Hornbeam)

<400> 57

Gly Val Phe Asn Tyr Glu Ala Glu Thr Thr Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ala Phe Ile Leu Asp Gly Asn Lys Leu Ile Pro Lys
20 25 30
Val Ser Pro Gln Ala Val Ser Ser Val Glu Asn Val Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Ser Glu Gly Ser Pro Val
50 55 60
Lys Tyr Val Lys Glu Arg Val Glu Glu Ile Asp His Thr Asn Phe Lys
65 70 75 80
Tyr Asn Tyr Thr Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
85 90 95
Lys Val Ser His Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser
100 105 110
Ile Val Lys Ile Ser Ser Lys Phe His Ala Lys Gly Tyr His Glu Val
115 120 125
Asn Ala Glu Glu Met Lys Gly Ala Lys Glu Met Ala Glu Lys Leu Leu
130 135 140
Arg Ala Val Glu Ser Tyr Leu Leu Ala His Thr Ala Glu Tyr Asn
145 150 155

<210> 58

<211> 375

<212> PRT

<213> *Chamaecyparis obtusa* (Japanese cypress)

<400> 58

Met Ala Ser Cys Thr Leu Leu Ala Val Leu Val Phe Leu Cys Ala Ile
1 5 10 15
Val Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp
20 25 30
Ala Asn Trp Asp Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly
35 40 45

Phe Gly Ser Ser Ala Met Gly Gly Lys Gly Ala Phe Tyr Thr Val
 50 55 60
 Thr Ser Ser Asp Asp Asp Pro Val Asn Pro Ala Pro Gly Thr Leu Arg
 65 70 75 80
 Tyr Gly Ala Thr Arg Glu Arg Ser Leu Trp Ile Ile Phe Ser Lys Asn
 85 90 95
 Leu Asn Ile Lys Leu Asn Met Pro Leu Tyr Ile Ala Gly Asn Lys Thr
 100 105 110
 Ile Asp Gly Arg Gly Ala Glu Val His Ile Gly Asn Gly Gly Pro Cys
 115 120 125
 Leu Phe Met Arg Thr Val Ser His Val Ile Leu His Gly Leu Asn Ile
 130 135 140
 His Gly Cys Asn Thr Ser Val Ser Gly Asn Val Leu Ile Ser Glu Ala
 145 150 155 160
 Ser Gly Val Val Pro Val His Ala Gln Asp Gly Asp Ala Ile Thr Met
 165 170 175
 Arg Asn Val Thr Asp Val Trp Ile Asp His Asn Ser Leu Ser Asp Ser
 180 185 190
 Ser Asp Gly Leu Val Asp Val Thr Leu Ala Ser Thr Gly Val Thr Ile
 195 200 205
 Ser Asn Asn His Phe Phe Asn His His Lys Val Met Leu Leu Gly His
 210 215 220
 Ser Asp Ile Tyr Ser Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe
 225 230 235 240
 Asn Gln Phe Gly Pro Asn Ala Gly Gln Arg Met Pro Arg Ala Arg Tyr
 245 250 255
 Gly Leu Ile His Val Ala Asn Asn Tyr Asp Pro Trp Ser Ile Tyr
 260 265 270
 Ala Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser
 275 280 285
 Phe Thr Ala Pro Asn Asp Ser Asp Lys Lys Glu Val Thr Arg Arg Val
 290 295 300
 Gly Cys Glu Ser Pro Ser Thr Cys Ala Asn Trp Val Trp Arg Ser Thr
 305 310 315 320
 Gln Asp Ser Phe Asn Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Asn
 325 330 335
 Glu Gly Thr Asn Ile Tyr Asn Asn Glu Ala Phe Lys Val Glu Asn
 340 345 350
 Gly Ser Ala Ala Pro Gln Leu Thr Lys Asn Ala Gly Val Leu Thr Cys
 355 360 365
 Ile Leu Ser Lys Pro Cys Ser
 370 375

<210> 59
 <211> 496
 <212> PRT
 <213> Cladosporium herbarum

<400> 59
 Met Thr Ser Val Gln Leu Glu Thr Pro His Ser Gly Lys Tyr Glu Gln
 1 5 10 15
 Pro Thr Gly Leu Phe Ile Asn Asn Glu Phe Val Lys Gly Gln Glu Gly
 20 25 30
 Lys Thr Phe Asp Val Ile Asn Pro Ser Asp Glu Ser Val Ile Thr Gln
 35 40 45
 Val His Glu Ala Thr Glu Lys Asp Val Asp Ile Ala Val Ala Ala Ala
 50 55 60
 Arg Gln Ala Phe Glu Gly Ser Trp Arg Leu Glu Thr Pro Glu Asn Arg
 65 70 75 80
 Gly Lys Leu Leu Asn Asn Leu Ala Asn Leu Phe Glu Lys Asn Thr Asp

	85	90	95												
Leu	Leu	Ala	Ala	Val	Glu	Ser	Leu	Asp	Asn	Gly	Lys	Ala	Thr	Ser	Met
				100				105							110
Ala	Arg	Val	Thr	Ser	Ala	Cys	Ala	Ser	Gly	Cys	Leu	Arg	Tyr	Tyr	Gly
				115				120							125
Gly	Trp	Ala	Asp	Lys	Ile	Thr	Gly	Lys	Val	Ile	Asp	Thr	Thr	Pro	Asp
				130			135				140				
Thr	Phe	Asn	Tyr	Val	Lys	Lys	Glu	Pro	Ile	Gly	Val	Cys	Arg	Ser	Asp
				145			150			155					160
His	Ser	Leu	Glu	Leu	Pro	Leu	Leu	Met	Trp	Ala	Trp	Lys	Ile	Gly	Pro
				165			170			175					
Ala	Ile	Ala	Cys	Gly	Asn	Thr	Val	Val	Leu	Lys	Thr	Ala	Glu	Gln	Thr
				180			185						190		
Pro	Leu	Gly	Gly	Leu	Val	Ala	Ala	Ser	Leu	Val	Lys	Glu	Ala	Gly	Phe
				195			200				205				
Pro	Pro	Gly	Val	Ile	Asn	Val	Ile	Ser	Gly	Phe	Gly	Lys	Val	Ala	Gly
				210			215			220					
Ala	Ala	Leu	Ser	Ser	His	Met	Asp	Val	Asp	Lys	Val	Ala	Phe	Thr	Gly
				225			230			235					240
Ser	Thr	Val	Val	Gly	Arg	Thr	Ile	Leu	Lys	Ala	Ala	Ser	Ser	Asn	
				245			250			255					
Leu	Lys	Lys	Val	Thr	Leu	Glu	Leu	Gly	Gly	Lys	Ser	Pro	Asn	Ile	Val
				260			265						270		
Phe	Glu	Asp	Ala	Asp	Ile	Asp	Asn	Ala	Ile	Ser	Trp	Val	Asn	Phe	Gly
				275			280				285				
Ile	Phe	Phe	Asn	His	Gly	Gln	Cys	Cys	Cys	Ala	Gly	Ser	Arg	Val	Tyr
				290			295			300					
Val	Gln	Glu	Ser	Ile	Tyr	Asp	Lys	Phe	Val	Gln	Lys	Phe	Lys	Glu	Arg
				305			310			315					320
Ala	Gln	Lys	Asn	Val	Val	Gly	Asp	Pro	Phe	Ala	Ala	Asp	Thr	Phe	Gln
				325			330			335					
Gly	Pro	Gln	Val	Ser	Lys	Val	Gln	Phe	Asp	Arg	Ile	Met	Glu	Tyr	Ile
				340			345						350		
Gln	Ala	Gly	Lys	Asp	Ala	Gly	Ala	Thr	Val	Glu	Thr	Gly	Gly	Ser	Arg
				355			360						365		
Lys	Gly	Asp	Lys	Gly	Tyr	Phe	Ile	Glu	Pro	Thr	Ile	Phe	Ser	Asn	Val
				370			375			380					
Thr	Glu	Asp	Met	Lys	Ile	Val	Lys	Glu	Glu	Ile	Phe	Gly	Pro	Val	Cys
				385			390			395					400
Ser	Ile	Ala	Lys	Phe	Lys	Thr	Lys	Glu	Asp	Ala	Ile	Lys	Leu	Gly	Asn
				405			410						415		
Ala	Ser	Thr	Tyr	Gly	Leu	Ala	Ala	Val	His	Thr	Lys	Asn	Leu	Asn	
				420			425						430		
Thr	Ala	Ile	Glu	Val	Ser	Asn	Ala	Leu	Lys	Ala	Gly	Thr	Val	Trp	Val
				435			440						445		
Asn	Thr	Tyr	Asn	Thr	Leu	His	His	Gln	Met	Pro	Phe	Gly	Gly	Tyr	Lys
				450			455						460		
Glu	Ser	Gly	Ile	Gly	Arg	Glu	Leu	Gly	Glu	Asp	Ala	Leu	Ala	Asn	Tyr
				465			470			475					480
Thr	Gln	Thr	Lys	Thr	Val	Ser	Ile	Arg	Leu	Gly	Asp	Ala	Leu	Phe	Gly
				485			490						495		

<210> 60

<211> 111

<212> PRT

<213> Cladosporium herbarum

<400> 60

Met	Lys	Tyr	Met	Ala	Ala	Tyr	Leu	Leu	Leu	Gly	Leu	Ala	Gly	Asn	Ser
1				5				10						15	

Ser	Pro	Ser	Ala	Glu	Asp	Ile	Lys	Thr	Val	Leu	Ser	Ser	Val	Gly	Ile
20								25						30	
Asp	Ala	Asp	Glu	Glu	Arg	Leu	Ser	Ser	Leu	Leu	Lys	Glu	Leu	Glu	Gly
35							40					45			
Lys	Asp	Ile	Asn	Glu	Leu	Ile	Ser	Ser	Gly	Ser	Gln	Lys	Leu	Ala	Ser
50							55				60				
Val	Pro	Ser	Gly	Gly	Ser	Gly	Ala	Ala	Pro	Ser	Ala	Gly	Gly	Ala	Ala
65					70				75			80			
Ala	Ala	Gly	Gly	Ala	Thr	Glu	Ala	Ala	Pro	Glu	Ala	Ala	Lys	Glu	Glu
					85				90			95			
Glu	Lys	Glu	Glu	Ser	Asp	Asp	Asp	Met	Gly	Phe	Gly	Leu	Phe	Asp	
				100				105			110				

<210> 61

<211> 643

<212> PRT

<213> Cladosporium herbarum

<400> 61

Met	Ala	Pro	Ala	Ile	Gly	Ile	Asp	Leu	Gly	Thr	Thr	Tyr	Ser	Cys	Val
1				5				10					15		
Gly	Ile	Tyr	Arg	Asp	Asp	Arg	Ile	Glu	Ile	Ile	Ala	Asn	Asp	Gln	Gly
					20			25				30			
Asn	Arg	Thr	Thr	Pro	Ser	Phe	Val	Ala	Phe	Thr	Asp	Thr	Glu	Arg	Leu
					35			40			45				
Ile	Gly	Asp	Ser	Ala	Lys	Asn	Gln	Val	Ala	Ile	Asn	Pro	His	Asn	Thr
					50			55			60				
Val	Phe	Asp	Ala	Lys	Arg	Leu	Ile	Gly	Arg	Lys	Phe	Gln	Asp	Ala	Glu
					65			70			75		80		
Val	Gln	Ala	Asp	Met	Lys	His	Phe	Pro	Phe	Lys	Val	Ile	Glu	Lys	Ala
					85			90			95				
Gly	Lys	Pro	Val	Thr	Gln	Val	Glu	Phe	Lys	Gly	Glu	Thr	Lys	Asp	Phe
					100			105			110				
Thr	Pro	Glu	Glu	Ile	Ser	Ser	Met	Ile	Leu	Thr	Lys	Met	Arg	Glu	Thr
					115			120			125				
Ala	Glu	Ser	Tyr	Leu	Gly	Gly	Thr	Val	Asn	Asn	Ala	Val	Ile	Thr	Val
					130			135			140				
Pro	Ala	Tyr	Phe	Asn	Asp	Ser	Gln	Arg	Gln	Ala	Thr	Lys	Asp	Ala	Gly
					145			150			155		160		
Leu	Ile	Ala	Gly	Leu	Asn	Val	Leu	Arg	Ile	Ile	Asn	Glu	Pro	Thr	Ala
					165			170			175				
Ala	Ala	Ile	Ala	Tyr	Gly	Leu	Asp	Lys	Lys	Gln	Glu	Gly	Glu	Lys	Asn
					180			185			190				
Val	Leu	Ile	Phe	Asp	Leu	Gly	Gly	Thr	Phe	Asp	Val	Ser	Phe	Leu	
					195			200			205				
Thr	Ile	Glu	Glu	Gly	Ile	Phe	Glu	Val	Lys	Ser	Thr	Ala	Gly	Asp	Thr
					210			215			220				
His	Leu	Gly	Gly	Glu	Asp	Phe	Asp	Asn	Arg	Leu	Val	Asn	His	Phe	Ser
					225			230			235		240		
Asn	Glu	Phe	Lys	Arg	Lys	His	Lys	Lys	Asp	Leu	Ser	Asp	Asn	Ala	Arg
					245			250			255				
Ala	Leu	Arg	Arg	Leu	Arg	Thr	Ala	Cys	Glu	Arg	Ala	Lys	Arg	Thr	Leu
					260			265			270				
Ser	Ser	Ser	Ala	Gln	Thr	Ser	Ile	Glu	Ile	Asp	Ser	Leu	Phe	Glu	Gly
					275			280			285				
Ile	Asp	Phe	Phe	Thr	Ser	Asn	Thr	Arg	Ala	Arg	Phe	Glu	Glu	Val	Gly
					290			295			300				
Gln	Asp	Leu	Phe	Arg	Gly	Asn	Met	Glu	Pro	Gly	Glu	Arg	Thr	Leu	Arg
					305			310			315		320		
Asp	Asp	Lys	Ile	Asp	Lys	Ser	Ser	Val	His	Glu	Ile	Val	Leu	Gly	Gly

	325		330		335										
Gly	Ser	Thr	Arg	Ile	Pro	Lys	Val	Gln	Lys	Leu	Val	Ser	Asp	Phe	Phe
				340				345					350		
Asn	Gly	Lys	Glu	Pro	Cys	Lys	Ser	Ile	Asn	Pro	Asp	Glu	Ala	Val	Ala
				355				360					365		
Tyr	Gly	Ala	Ala	Val	Gln	Ala	Ala	Ile	Leu	Ser	Gly	Asp	Thr	Ser	Ser
				370				375					380		
Lys	Ser	Thr	Lys	Glu	Ile	Leu	Leu	Asp	Val	Ala	Pro	Leu	Ser	Leu	
				385				390					395		400
Gly	Ile	Glu	Thr	Ala	Gly	Gly	Val	Met	Thr	Ala	Leu	Ile	Lys	Arg	Asn
				405				410					415		
Thr	Thr	Ile	Pro	Thr	Lys	Lys	Ser	Glu	Thr	Phe	Ser	Thr	Phe	Ser	Asp
				420				425					430		
Asn	Gln	Pro	Gly	Val	Leu	Ile	Gln	Val	Phe	Glu	Gly	Glu	Arg	Ala	Arg
				435				440					445		
Thr	Lys	Asp	Ile	Asn	Leu	Met	Gly	Lys	Phe	Glu	Leu	Ser	Gly	Ile	Arg
				450				455					460		
Pro	Ala	Pro	Arg	Gly	Val	Pro	Gln	Ile	Glu	Val	Thr	Phe	Asp	Leu	Asp
				465				470					475		480
Ala	Asn	Gly	Ile	Met	Asn	Val	Ser	Ala	Leu	Glu	Lys	Gly	Thr	Gly	Lys
				485				490					495		
Thr	Asn	Lys	Ile	Val	Ile	Thr	Asn	Asp	Lys	Gly	Arg	Leu	Ser	Lys	Glu
				500				505					510		
Glu	Ile	Glu	Arg	Met	Leu	Ala	Asp	Ala	Glu	Lys	Tyr	Lys	Glu	Glu	Asp
				515				520					525		
Glu	Ala	Glu	Ala	Gly	Arg	Ile	Gln	Ala	Lys	Asn	Gly	Leu	Glu	Ser	Tyr
				530				535					540		
Ala	Tyr	Ser	Leu	Lys	Asn	Thr	Val	Ser	Asp	Pro	Lys	Val	Glu	Glu	Lys
				545				550					555		560
Leu	Ser	Ala	Glu	Asp	Lys	Glu	Thr	Leu	Thr	Gly	Ala	Ile	Asp	Lys	Thr
				565				570					575		
Val	Ala	Trp	Ile	Asp	Glu	Asn	Gln	Thr	Ala	Thr	Lys	Glu	Glu	Tyr	Glu
				580				585					590		
Ala	Glu	Gln	Lys	Gln	Leu	Glu	Ser	Val	Ala	Asn	Pro	Val	Met	Met	Lys
				595				600					605		
Ile	Tyr	Gly	Ala	Glu	Gly	Gly	Ala	Pro	Gly	Gly	Met	Pro	Gly	Gln	Gly
				610				615					620		
Ala	Gly	Ala	Pro	Pro	Pro	Gly	Ala	Gly	Asp	Asp	Gly	Pro	Thr	Val	Glu
				625				630					635		640
Glu	Val	Asp													

<210> 62
 <211> 112
 <212> PRT
 <213> Cladosporium herbarum

	62														
Met	Lys	Tyr	Leu	Ala	Ala	Phe	Leu	Leu	Gly	Leu	Ala	Gly	Asn	Ser	
				1		5			10			15			
Ser	Pro	Ser	Ala	Glu	Asp	Ile	Lys	Thr	Val	Leu	Ser	Ser	Val	Gly	Ile
				20				25					30		
Asp	Ala	Asp	Glu	Glu	Arg	Leu	Ser	Ser	Leu	Leu	Lys	Glu	Leu	Glu	Gly
				35				40					45		
Lys	Asp	Ile	Asn	Glu	Leu	Ile	Ser	Ser	Gly	Ser	Glu	Lys	Leu	Ala	Ser
				50				55					60		
Val	Pro	Ser	Gly	Gly	Ala	Gly	Ala	Ala	Ser	Ala	Gly	Gly	Ala	Ala	Ala
				65				70					75		80
Ala	Gly	Gly	Ala	Ala	Glu	Ala	Ala	Pro	Glu	Ala	Glu	Arg	Ala	Glu	Glu
				85				90					95		

Glu Lys Glu Glu Ser Asp Asp Asp Met Gly Phe Gly Leu Phe Asp Glx
100 105 110

<210> 63

<211> 204

<212> PRT

<213> Cladosporium herbarum

<400> 63

Met Ala Pro Lys Ile Ala Ile Ile Phe Tyr Ser Thr Trp Gly His Val
1 5 10 15
Gln Thr Leu Ala Glu Ala Glu Ala Lys Gly Ile Arg Glu Ala Gly Gly
20 25 30
Ser Val Asp Leu Tyr Arg Val Pro Glu Thr Leu Thr Gln Glu Val Leu
35 40 45
Thr Lys Met His Ala Pro Pro Lys Asp Asp Ser Ile Pro Glu Ile Thr
50 55 60
Asp Pro Phe Ile Leu Glu Gln Tyr Asp Arg Phe Pro His Gly His Pro
65 70 75 80
Thr Arg Tyr Gly Asn Phe Pro Ala Gln Trp Arg Thr Phe Trp Asp Arg
85 90 95
Thr Gly Gly Gln Trp Gln Thr Gly Ala Phe Trp Gly Lys Tyr Ala Gly
100 105 110
Leu Phe Ile Ser Thr Gly Thr Gln Gly Gly Gln Glu Ser Thr Ala
115 120 125
Leu Ala Ala Met Ser Thr Leu Ser His His Gly Ile Ile Tyr Val Pro
130 135 140
Leu Gly Tyr Lys Thr Thr Phe His Leu Leu Gly Asp Asn Ser Glu Val
145 150 155 160
Arg Gly Ala Ala Val Trp Gly Ala Gly Thr Phe Ser Gly Gly Asp Gly
165 170 175
Ser Arg Gln Pro Ser Gln Lys Glu Leu Glu Leu Thr Ala Gln Gly Lys
180 185 190
Ala Phe Tyr Glu Ala Val Ala Lys Val Asn Phe Gln
195 200

<210> 64

<211> 440

<212> PRT

<213> Cladosporium herbarum

<400> 64

Met Pro Ile Ser Lys Ile His Ser Arg Tyr Val Tyr Asp Ser Arg Gly
1 5 10 15
Asn Pro Thr Val Glu Val Asp Ile Val Thr Glu Thr Gly Leu His Arg
20 25 30
Ala Ile Val Pro Ser Gly Ala Ser Thr Gly Ser His Glu Ala Cys Glu
35 40 45
Leu Arg Asp Gly Asp Lys Ser Lys Trp Ala Gly Lys Gly Val Thr Lys
50 55 60
Ala Val Ala Asn Val Asn Glu Ile Ile Ala Pro Ala Leu Ile Lys Glu
65 70 75 80
Asn Leu Asp Val Lys Asp Gln Ala Ala Val Asp Ala Phe Leu Asn Lys
85 90 95
Leu Asp Gly Thr Thr Asn Lys Thr Lys Ile Gly Ala Asn Ala Ile Leu
100 105 110
Gly Val Ser Met Ala Val Ala Lys Ala Ala Ala Ala Glu Lys Arg Val
115 120 125
Pro Leu Tyr Ala His Ile Ser Asp Leu Ser Gly Thr Lys Lys Pro Phe

130	135	140													
Val	Leu	Pro	Val	Pro	Phe	Met	Asn	Val	Val	Asn	Gly	Gly	Ser	His	Ala
145					150					155					160
Gly	Gly	Arg	Leu	Ala	Phe	Gln	Glu	Phe	Met	Ile	Val	Pro	Ser	Gly	Ala
						165				170					175
Pro	Ser	Phe	Thr	Glu	Ala	Met	Arg	Gln	Gly	Ala	Glu	Val	Tyr	Gln	Lys
						180			185						190
Leu	Lys	Ser	Leu	Thr	Lys	Lys	Arg	Tyr	Gly	Gln	Ser	Ala	Gly	Asn	Val
						195			200						205
Gly	Asp	Glu	Gly	Gly	Val	Ala	Pro	Asp	Ile	Gln	Thr	Ala	Glu	Glu	Ala
						210			215						220
Leu	Asp	Leu	Ile	Thr	Asp	Ala	Ile	Glu	Glu	Ala	Gly	Tyr	Thr	Gly	Gln
225					230					235					240
Ile	Lys	Ile	Ala	Met	Asp	Val	Ala	Ser	Ser	Glu	Phe	Tyr	Lys	Ala	Asp
						245			250						255
Glu	Lys	Lys	Tyr	Asp	Leu	Asp	Phe	Lys	Asn	Pro	Asp	Ser	Asp	Lys	Ser
						260			265						270
Lys	Trp	Ile	Thr	Tyr	Glu	Gln	Leu	Ala	Asp	Gln	Tyr	Lys	Gln	Leu	Ala
						275			280						285
Ala	Lys	Tyr	Pro	Ile	Val	Ser	Ile	Glu	Asp	Pro	Phe	Ala	Glu	Asp	Asp
						290			295						300
Trp	Glu	Ala	Trp	Ser	Tyr	Phe	Tyr	Lys	Thr	Ser	Gly	Ser	Asp	Phe	Gln
305						310				315					320
Ile	Val	Gly	Asp	Asp	Leu	Thr	Val	Thr	Asn	Pro	Glu	Phe	Ile	Lys	Lys
						325			330						335
Ala	Ile	Glu	Thr	Lys	Ala	Cys	Asn	Ala	Leu	Leu	Leu	Lys	Val	Asn	Gln
						340			345						350
Ile	Gly	Thr	Ile	Thr	Glu	Ala	Ile	Asn	Ala	Ala	Lys	Asp	Ser	Phe	Ala
						355			360						365
Ala	Gly	Trp	Gly	Val	Met	Val	Ser	His	Arg	Ser	Gly	Glu	Thr	Glu	Asp
						370			375						380
Val	Thr	Ile	Ala	Asp	Ile	Val	Val	Gly	Leu	Arg	Ala	Gly	Gln	Ile	Lys
385						390				395					400
Thr	Gly	Ala	Pro	Ala	Arg	Ser	Glu	Arg	Leu	Ala	Lys	Leu	Asn	Gln	Ile
						405			410						415
Leu	Arg	Ile	Glu	Glu	Leu	Gly	Asp	Lys	Ala	Val	Tyr	Ala	Gly	Asp	
						420			425						430
Asn	Phe	Arg	Thr	Ala	Ile	Asn	Leu								
						435			440						

<210> 65

<211> 110

<212> PRT

<213> Cladosporium herbarum

<400> 65

Met	Ser	Ala	Ala	Glu	Leu	Ala	Ser	Ser	Tyr	Ala	Ala	Leu	Ile	Leu	Ala
1				5					10				15		
Asp	Glu	Gly	Leu	Glu	Ile	Thr	Ala	Asp	Lys	Leu	Gln	Ala	Leu	Ile	Ser
					20				25				30		
Ala	Ala	Lys	Val	Pro	Glu	Ile	Glu	Pro	Ile	Trp	Thr	Ser	Leu	Phe	Ala
						35			40				45		
Lys	Ala	Leu	Glu	Gly	Lys	Asp	Val	Lys	Asp	Leu	Leu	Asn	Val	Gly	
						50			55				60		
Ser	Gly	Gly	Ala	Ala	Pro	Ala	Ala	Gly	Gly	Ala	Ala	Ala	Gly	Gly	
65						70				75				80	
Ala	Ala	Ala	Val	Leu	Asp	Ala	Pro	Ala	Glu	Glu	Lys	Ala	Glu	Glu	
						85			90				95		
Lys	Glu	Glu	Ser	Asp	Asp	Asp	Met	Gly	Phe	Gly	Leu	Phe	Asp		
						100			105				110		

P1
Conf.

<210> 66
<211> 159
<212> PRT
<213> Corylus avellana (European hazel)

<400> 66
Gly Val Phe Asn Tyr Glu Val Glu Thr Pro Ser Val Ile Pro Ala Ala
1 5 10 15
Arg Leu Phe Lys Ser Tyr Val Leu Asp Gly Asp Lys Leu Ile Pro Lys
20 25 30
Val Ala Pro Gln Ala Ile Thr Ser Val Glu Asn Val Glu Gly Asn Gly
35 40 45
Gly Pro Gly Thr Ile Lys Asn Ile Thr Phe Gly Glu Gly Ser Arg Tyr
50 55 60
Lys Tyr Val Lys Glu Arg Val Asp Glu Val Asp Asn Thr Asn Phe Thr
65 70 75 80
Tyr Ser Tyr Thr Val Ile Glu Gly Asp Val Leu Gly Asp Lys Leu Glu
85 90 95
Lys Val Cys His Glu Leu Lys Ile Val Ala Ala Pro Gly Gly Ser
100 105 110
Ile Leu Lys Ile Ser Ser Lys Phe His Ala Lys Gly Asp His Glu Ile
115 120 125
Asn Ala Glu Glu Met Lys Gly Ala Lys Glu Met Ala Glu Lys Leu Leu
130 135 140
Arg Ala Val Glu Thr Tyr Leu Leu Ala His Ser Ala Glu Tyr Asn
145 150 155

<210> 67
<211> 346
<212> PRT
<213> Cupressus arizonica

<400> 67
Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp Ser Asn Trp Asp Gln
1 5 10 15
Asn Arg Met Lys Leu Ala Asp Cys Val Val Gly Phe Gly Ser Ser Thr
20 25 30
Met Gly Gly Lys Gly Glu Ile Tyr Thr Val Thr Ser Ser Glu Asp
35 40 45
Asn Pro Val Asn Pro Thr Pro Gly Thr Leu Arg Tyr Gly Ala Thr Arg
50 55 60
Glu Lys Ala Leu Trp Ile Ile Phe Ser Gln Asn Met Asn Ile Lys Leu
65 70 75 80
Gln Met Pro Leu Tyr Val Ala Gly Tyr Lys Thr Ile Asp Gly Arg Gly
85 90 95
Ala Val Val His Leu Gly Asn Gly Pro Cys Leu Phe Met Arg Lys
100 105 110
Ala Ser His Val Ile Leu His Gly Leu His Ile His Gly Cys Asn Thr
115 120 125
Ser Val Leu Gly Asp Val Leu Val Ser Glu Ser Ile Gly Val Glu Pro
130 135 140
Val His Ala Gln Asp Gly Asp Ala Ile Thr Met Arg Asn Val Thr Asn
145 150 155 160
Ala Trp Ile Asp His Asn Ser Leu Ser Asp Cys Ser Asp Gly Leu Ile
165 170 175
Asp Val Thr Leu Gly Ser Thr Gly Ile Thr Ile Ser Asn Asn His Phe
180 185 190
Phe Asn His His Lys Val Met Leu Leu Gly His Asp Asp Thr Tyr Asp

195	200	205
Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe Asn Gln Phe Gly Pro		
210	215	220
Asn Ala Gly Gln Arg Met Pro Arg Ala Arg Tyr Gly Leu Val His Val		
225	230	235
Ala Asn Asn Asn Tyr Asp Gln Trp Asn Ile Tyr Ala Ile Gly Gly Ser		
245	250	255
Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser Phe Thr Ala Pro Asn		
260	265	270
Glu Ser Tyr Lys Lys Glu Val Thr Lys Arg Ile Gly Cys Glu Thr Thr		
275	280	285
Ser Ala Cys Ala Asn Trp Val Trp Arg Ser Thr Arg Asp Ala Phe Thr		
290	295	300
Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Ala Glu Asp Thr Asn Ile		
305	310	315
Tyr Asn Ser Asn Glu Ala Phe Lys Val Glu Asn Gly Asn Ala Ala Pro		
325	330	335
Gln Leu Thr Gln Asn Ala Gly Val Val Ala		
340	345	

<210> 68

<211> 374

<212> PRT

<213> Cryptomeria japonica (Japanese cedar)

<400> 68

Met Asp Ser Pro Cys Leu Val Ala Leu Leu Val Leu Ser Phe Val Ile			
1	5	10	15
Gly Ser Cys Phe Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp			
20	25	30	
Ser Asn Trp Ala Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly			
35	40	45	
Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Asp Leu Tyr Thr Val			
50	55	60	
Thr Asn Ser Asp Asp Asp Pro Val Asn Pro Ala Pro Gly Thr Leu Arg			
65	70	75	80
Tyr Gly Ala Thr Arg Asp Arg Pro Leu Trp Ile Ile Phe Ser Gly Asn			
85	90	95	
Met Asn Ile Lys Leu Lys Met Pro Met Tyr Ile Ala Gly Tyr Lys Thr			
100	105	110	
Phe Asp Gly Arg Gly Ala Gln Val Tyr Ile Gly Asn Gly Gly Pro Cys			
115	120	125	
Val Phe Ile Lys Arg Val Ser Asn Val Ile Ile His Gly Leu His Leu			
130	135	140	
Tyr Gly Cys Ser Thr Ser Val Leu Gly Asn Val Leu Ile Asn Glu Ser			
145	150	155	160
Phe Gly Val Glu Pro Val His Pro Gln Asp Gly Asp Ala Leu Thr Leu			
165	170	175	
Arg Thr Ala Thr Asn Ile Trp Ile Asp His Asn Ser Phe Ser Asn Ser			
180	185	190	
Ser Asp Gly Leu Val Asp Val Thr Leu Ser Ser Thr Gly Val Thr Ile			
195	200	205	
Ser Asn Asn Leu Phe Phe Asn His His Lys Val Met Leu Leu Gly His			
210	215	220	
Asp Asp Ala Tyr Ser Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe			
225	230	235	240
Asn Gln Phe Gly Pro Asn Cys Gly Gln Arg Met Pro Arg Ala Arg Tyr			
245	250	255	
Gly Leu Val His Val Ala Asn Asn Tyr Asp Pro Trp Thr Ile Tyr			
260	265	270	

Ala Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser
 275 280 285
 Phe Thr Ala Pro Asn Glu Ser Tyr Lys Lys Gln Val Thr Ile Arg Ile
 290 295 300
 Gly Cys Lys Thr Ser Ser Cys Ser Asn Trp Val Trp Gln Ser Thr
 305 310 315 320
 Gln Asp Val Phe Tyr Asn Gly Ala Tyr Phe Val Ser Ser Gly Lys Tyr
 325 330 335
 Glu Gly Gly Asn Ile Tyr Thr Lys Lys Glu Ala Phe Asn Val Glu Asn
 340 345 350
 Gly Asn Ala Thr Pro Gln Leu Thr Lys Asn Ala Gly Val Leu Thr Cys
 355 360 365
 Ser Leu Ser Lys Arg Cys
 370

<210> 69
 <211> 514
 <212> PRT
 <213> Cryptomeria japonica (Japanese cedar)

<400> 69
 Met Ala Met Lys Phe Ile Ala Pro Met Ala Phe Val Ala Met Gln Leu
 1 5 10 15
 Ile Ile Met Ala Ala Ala Glu Asp Gln Ser Ala Gln Ile Met Leu Asp
 20 25 30
 Ser Asp Ile Glu Gln Tyr Leu Arg Ser Asn Arg Ser Leu Arg Lys Val
 35 40 45
 Glu His Ser Arg His Asp Ala Ile Asn Ile Phe Asn Val Glu Lys Tyr
 50 55 60
 Gly Ala Val Gly Asp Gly Lys His Asp Cys Thr Glu Ala Phe Ser Thr
 65 70 75 80
 Ala Trp Gln Ala Ala Cys Lys Lys Pro Ser Ala Met Leu Leu Val Pro
 85 90 95
 Gly Asn Lys Lys Phe Val Val Asn Asn Leu Phe Phe Asn Gly Pro Cys
 100 105 110
 Gln Pro His Phe Thr Phe Lys Val Asp Gly Ile Ile Ala Ala Tyr Gln
 115 120 125
 Asn Pro Ala Ser Trp Lys Asn Asn Arg Ile Trp Leu Gln Phe Ala Lys
 130 135 140
 Leu Thr Gly Phe Thr Leu Met Gly Lys Gly Val Ile Asp Gly Gln Gly
 145 150 155 160
 Lys Gln Trp Trp Ala Gly Gln Cys Lys Trp Val Asn Gly Arg Glu Ile
 165 170 175
 Cys Asn Asp Arg Asp Arg Pro Thr Ala Ile Lys Phe Asp Phe Ser Thr
 180 185 190
 Gly Leu Ile Ile Gln Gly Leu Lys Leu Met Asn Ser Pro Glu Phe His
 195 200 205
 Leu Val Phe Gly Asn Cys Glu Gly Val Lys Ile Ile Gly Ile Ser Ile
 210 215 220
 Thr Ala Pro Arg Asp Ser Pro Asn Thr Asp Gly Ile Asp Ile Phe Ala
 225 230 235 240
 Ser Lys Asn Phe His Leu Gln Lys Asn Thr Ile Gly Thr Gly Asp Asp
 245 250 255
 Cys Val Ala Ile Gly Thr Gly Ser Ser Asn Ile Val Ile Glu Asp Leu
 260 265 270
 Ile Cys Gly Pro Gly His Gly Ile Ser Ile Gly Ser Leu Gly Arg Glu
 275 280 285
 Asn Ser Arg Ala Glu Val Ser Tyr Val His Val Asn Gly Ala Lys Phe
 290 295 300
 Ile Asp Thr Gln Asn Gly Leu Arg Ile Lys Thr Trp Gln Gly Ser

<210> 70
<211> 131
<212> PRT
<213> *Cynodon dactylon* (Bermuda grass)

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<400> 70
Met Ser Trp Gln Ala Tyr Val Asp Asp His Leu Met Cys Glu Ile Glu
   1           5           10           15
Gly His His Leu Thr Ser Ala Ala Ile Ile Gly His Asp Gly Thr Val
   20          25          30
Trp Ala Gln Ser Ala Ala Phe Pro Ala Phe Lys Pro Glu Glu Met Ala
   35          40          45
Asn Ile Met Lys Asp Phe Asp Glu Pro Gly Phe Leu Ala Pro Thr Gly
   50          55          60
Leu Phe Leu Gly Pro Thr Lys Tyr Met Val Ile Gln Gly Glu Pro Gly
   65          70          75          80
Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Val Thr Val Lys Lys
   85          90          95
Thr Gly Gln Ala Leu Val Ile Gly Ile Tyr Asp Glu Pro Met Thr Pro
   100         105         110
Gly Gln Cys Asn Met Val Ile Glu Lys Leu Gly Asp Tyr Leu Ile Glu
   115         120         125
Gln Gly Met
   130

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<210> 71
<211> 36
<212> PRT
<213> *Dactylis glomerata* (Orchard grass) (Cocksfoot grass)

<400> 71

Glu Ala Pro Val Thr Phe Thr Val Glu Lys Gly Ser Asp Glu Lys Asn
1 5 10 15
Leu Ala Leu Ser Ile Lys Tyr Asn Lys Glu Gly Asp Ser Met Ala Glu
20 25 30
Val Glu Leu Lys
35

<210> 72
<211> 154
<212> PRT
<213> Daucus carota (Carrot)

<400> 72
Met Gly Ala Gln Ser His Ser Leu Glu Ile Thr Ser Ser Val Ser Ala
1 5 10 15
Glu Lys Ile Phe Ser Gly Ile Val Leu Asp Val Asp Thr Val Ile Pro
20 25 30
Lys Ala Ala Pro Gly Ala Tyr Lys Ser Val Glu Val Lys Gly Asp Gly
35 40 45
Gly Ala Gly Thr Val Arg Ile Ile Thr Leu Pro Glu Gly Ser Pro Ile
50 55 60
Thr Ser Met Thr Val Arg Thr Asp Ala Val Asn Lys Glu Ala Leu Thr
65 70 75 80
Tyr Asp Ser Thr Val Ile Asp Gly Asp Ile Leu Leu Gly Phe Ile Glu
85 90 95
Ser Ile Glu Thr His Leu Val Val Val Pro Thr Ala Asp Gly Gly Ser
100 105 110
Ile Thr Lys Thr Thr Ala Ile Phe His Thr Lys Gly Asp Ala Val Val
115 120 125
Pro Glu Glu Asn Ile Lys Phe Ala Asp Ala Gln Asn Thr Ala Leu Phe
130 135 140
Lys Ala Ile Glu Ala Tyr Leu Ile Ala Asn
145 150

<210> 73
<211> 321
<212> PRT
<213> Dermatophagoides farinae (House-dust mite)

<400> 73
Met Lys Phe Val Leu Ala Ile Ala Ser Leu Leu Val Leu Ser Thr Val
1 5 10 15
Tyr Ala Arg Pro Ala Ser Ile Lys Thr Phe Glu Glu Phe Lys Lys Ala
20 25 30
Phe Asn Lys Asn Tyr Ala Thr Val Glu Glu Glu Val Ala Arg Lys
35 40 45
Asn Phe Leu Glu Ser Leu Lys Tyr Val Glu Ala Asn Lys Gly Ala Ile
50 55 60
Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Tyr Leu
65 70 75 80
Met Ser Ala Glu Ala Phe Glu Gln Leu Lys Thr Gln Phe Asp Leu Asn
85 90 95
Ala Glu Thr Ser Ala Cys Arg Ile Asn Ser Val Asn Val Pro Ser Glu
100 105 110
Leu Asp Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly
115 120 125
Gly Cys Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser
130 135 140
Ala Tyr Leu Ala Tyr Arg Asn Thr Ser Leu Asp Leu Ser Glu Gln Glu

145	150	155	160
Leu Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro			
165	170	175	
Arg Gly Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Glu Glu Arg Ser			
180	185	190	
Tyr Pro Tyr Val Ala Arg Glu Gln Arg Cys Arg Arg Pro Asn Ser Gln			
195	200	205	
His Tyr Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asp Val Lys			
210	215	220	
Gln Ile Arg Glu Ala Leu Thr Gln Thr His Thr Ala Ile Ala Val Ile			
225	230	235	240
Ile Gly Ile Lys Asp Leu Arg Ala Phe Gln His Tyr Asp Gly Arg Thr			
245	250	255	
Ile Ile Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn			
260	265	270	
Ile Val Gly Tyr Gly Ser Thr Gln Gly Asp Asp Tyr Trp Ile Val Arg			
275	280	285	
Asn Ser Trp Asp Thr Thr Trp Gly Asp Ser Gly Tyr Gly Tyr Phe Gln			
290	295	300	
Ala Gly Asn Asn Leu Met Met Ile Glu Gln Tyr Pro Tyr Val Val Ile			
305	310	315	320
Met			

<210> 74

<211> 146

<212> PRT

<213> Dermatophagoides farinae (House-dust mite)

<400> 74

Met Ile Ser Lys Ile Leu Cys Leu Ser Leu Leu Val Ala Ala Val Val			
1	5	10	15
Ala Asp Gln Val Asp Val Lys Asp Cys Ala Asn Asn Glu Ile Lys Lys			
20	25	30	
Val Met Val Asp Gly Cys His Gly Ser Asp Pro Cys Ile Ile His Arg			
35	40	45	
Gly Lys Pro Phe Thr Leu Glu Ala Leu Phe Asp Ala Asn Gln Asn Thr			
50	55	60	
Lys Thr Ala Lys Ile Glu Ile Lys Ala Ser Leu Asp Gly Leu Glu Ile			
65	70	75	80
Asp Val Pro Gly Ile Asp Thr Asn Ala Cys His Phe Met Lys Cys Pro			
85	90	95	
Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys Tyr Thr Trp Asn Val Pro			
100	105	110	
Lys Ile Ala Pro Lys Ser Glu Asn Val Val Val Thr Val Lys Leu Ile			
115	120	125	
Gly Asp Asn Gly Val Leu Ala Cys Ala Ile Ala Thr His Gly Lys Ile			
130	135	140	
Arg Asp			
145			

<210> 75

<211> 259

<212> PRT

<213> Dermatophagoides farinae (House-dust mite)

<400> 75

Met Met Ile Leu Thr Ile Val Val Leu Leu Ala Ala Asn Ile Leu Ala			
1	5	10	15

Thr Pro Ile Leu Pro Ser Ser Pro Asn Ala Thr Ile Val Gly Gly Val
 20 25 30
 Lys Ala Gln Ala Gly Asp Cys Pro Tyr Gln Ile Ser Leu Gln Ser Ser
 35 40 45
 Ser His Phe Cys Gly Gly Ser Ile Leu Asp Glu Tyr Trp Ile Leu Thr
 50 55 60
 Ala Ala His Cys Val Asn Gly Gln Ser Ala Lys Lys Leu Ser Ile Arg
 65 70 75 80
 Tyr Asn Thr Leu Lys His Ala Ser Gly Glu Lys Ile Gln Val Ala
 85 90 95
 Glu Ile Tyr Gln His Glu Asn Tyr Asp Ser Met Thr Ile Asp Asn Asp
 100 105 110
 Val Ala Leu Ile Lys Leu Lys Thr Pro Met Thr Leu Asp Gln Thr Asn
 115 120 125
 Ala Lys Pro Val Pro Leu Pro Ala Gln Gly Ser Asp Val Lys Val Gly
 130 135 140
 Asp Lys Ile Arg Val Ser Gly Trp Gly Tyr Leu Gln Glu Gly Ser Tyr
 145 150 155 160
 Ser Leu Pro Ser Glu Leu Gln Arg Val Asp Ile Asp Val Val Ser Arg
 165 170 175
 Glu Gln Cys Asp Gln Leu Tyr Ser Lys Ala Gly Ala Asp Val Ser Glu
 180 185 190
 Asn Met Ile Cys Gly Gly Asp Val Ala Asn Gly Gly Val Asp Ser Cys
 195 200 205
 Gln Gly Asp Ser Gly Gly Pro Val Val Asp Val Ala Thr Lys Gln Ile
 210 215 220
 Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Arg Lys Gly Tyr Pro
 225 230 235 240
 Gly Val Tyr Thr Arg Val Gly Asn Phe Val Asp Trp Ile Glu Ser Lys
 245 250 255
 Arg Ser Gln

<210> 76
 <211> 20
 <212> PRT
 <213> Dermatophagoides farinae (House-dust mite)

<400> 76
 Ala Val Gly Gly Gln Asp Ala Asp Leu Ala Glu Ala Pro Phe Gln Ile
 1 5 10 15
 Ser Leu Leu Lys
 20

<210> 77
 <211> 213
 <212> PRT
 <213> Dermatophagoides farinae (House-dust mite)

<400> 77
 Met Met Lys Phe Leu Leu Ile Ala Ala Val Ala Phe Val Ala Val Ser
 1 5 10 15
 Ala Asp Pro Ile His Tyr Asp Lys Ile Thr Glu Glu Ile Asn Lys Ala
 20 25 30
 Ile Asp Asp Ala Ile Ala Ala Ile Glu Gln Ser Glu Thr Ile Asp Pro
 35 40 45
 Met Lys Val Pro Asp His Ala Asp Lys Phe Glu Arg His Val Gly Ile
 50 55 60
 Val Asp Phe Lys Gly Glu Leu Ala Met Arg Asn Ile Glu Ala Arg Gly

65 70 75 80
Leu Lys Gln Met Lys Arg Gln Gly Asp Ala Asn Val Lys Gly Glu Glu
85 90 95
Gly Ile Val Lys Ala His Leu Leu Ile Gly Val His Asp Asp Ile Val
100 105 110
Ser Met Glu Tyr Asp Leu Ala Tyr Lys Leu Gly Asp Leu His Pro Thr
115 120 125
Thr His Val Ile Ser Asp Ile Gln Asp Phe Val Val Ala Leu Ser Leu
130 135 140
Glu Ile Ser Asp Glu Gly Asn Ile Thr Met Thr Ser Phe Glu Val Arg
145 150 155 160
Gln Phe Ala Asn Val Val Asn His Ile Gly Gly Leu Ser Ile Leu Asp
165 170 175
Pro Ile Phe Gly Val Leu Ser Asp Val Leu Thr Ala Ile Phe Gln Asp
180 185 190
Thr Val Arg Lys Glu Met Thr Lys Val Leu Ala Pro Ala Phe Lys Arg
195 200 205
Glu Leu Glu Lys Asn
210

<210> 78

<211> 30

<212> PRT

<213> Dermatophagoides microceras (House-dust mite)

<400> 78

Thr Gln Ala Cys Arg Ile Asn Ser Gly Asn Val Pro Ser Glu Leu Asp
1 5 10 15
Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly
20 25 30

<210> 79

<211> 320

<212> PRT

<213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 79

Met Lys Ile Val Leu Ala Ile Ala Ser Leu Leu Ala Leu Ser Ala Val
1 5 10 15
Tyr Ala Arg Pro Ser Ser Ile Lys Thr Phe Glu Glu Tyr Lys Lys Ala
20 25 30
Phe Asn Lys Ser Tyr Ala Thr Phe Glu Asp Glu Glu Ala Ala Arg Lys
35 40 45
Asn Phe Leu Glu Ser Val Lys Tyr Val Gln Ser Asn Gly Gly Ala Ile
50 55 60
Asn His Leu Ser Asp Leu Ser Leu Asp Glu Phe Lys Asn Arg Phe Leu
65 70 75 80
Met Ser Ala Glu Ala Phe Glu His Leu Lys Thr Gln Phe Asp Leu Asn
85 90 95
Ala Glu Thr Asn Ala Cys Ser Ile Asn Gly Asn Ala Pro Ala Glu Ile
100 105 110
Asp Leu Arg Gln Met Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly
115 120 125
Cys Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ala Thr Glu Ser Ala
130 135 140
Tyr Leu Ala Tyr Arg Asn Gln Ser Leu Asp Leu Ala Glu Gln Glu Leu
145 150 155 160
Val Asp Cys Ala Ser Gln His Gly Cys His Gly Asp Thr Ile Pro Arg
165 170 175

Gly Ile Glu Tyr Ile Gln His Asn Gly Val Val Gln Glu Ser Tyr Tyr
180 185 190
Arg Tyr Val Ala Arg Glu Gln Ser Cys Arg Arg Pro Asn Ala Gln Arg
195 200 205
Phe Gly Ile Ser Asn Tyr Cys Gln Ile Tyr Pro Pro Asn Val Asn Lys
210 215 220
Ile Arg Glu Ala Leu Ala Gln Thr His Ser Ala Ile Ala Val Ile Ile
225 230 235 240
Gly Ile Lys Asp Leu Asp Ala Phe Arg His Tyr Asp Gly Arg Thr Ile
245 250 255
Ile Gln Arg Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile
260 265 270
Val Gly Tyr Ser Asn Ala Gln Gly Val Asp Tyr Trp Ile Val Arg Asn
275 280 285
Ser Trp Asp Thr Asn Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala
290 295 300
Asn Ile Asp Leu Met Met Ile Glu Glu Tyr Pro Tyr Val Val Ile Leu
305 310 315 320

<210> 80
<211> 146
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 80
Met Met Tyr Lys Ile Leu Cys Leu Ser Leu Leu Val Ala Ala Val Ala
1 5 10 15
Arg Asp Gln Val Asp Val Lys Asp Cys Ala Asn His Glu Ile Lys Lys
20 25 30
Val Leu Val Pro Gly Cys His Gly Ser Glu Pro Cys Ile Ile His Arg
35 40 45
Gly Lys Pro Phe Gln Leu Glu Ala Val Phe Glu Ala Asn Gln Asn Thr
50 55 60
Lys Thr Ala Lys Ile Glu Ile Lys Ala Ser Ile Asp Gly Leu Glu Val
65 70 75 80
Asp Val Pro Gly Ile Asp Pro Asn Ala Cys His Tyr Met Lys Cys Pro
85 90 95
Leu Val Lys Gly Gln Gln Tyr Asp Ile Lys Tyr Thr Trp Asn Val Pro
100 105 110
Lys Ile Ala Pro Lys Ser Glu Asn Val Val Val Thr Val Lys Val Met
115 120 125
Gly Asp Asp Gly Val Leu Ala Cys Ala Ile Ala Thr His Ala Lys Ile
130 135 140
Arg Asp
145

<210> 81
<211> 261
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 81
Met Ile Ile Tyr Asn Ile Leu Ile Val Leu Leu Ala Ile Asn Thr
1 5 10 15
Leu Ala Asn Pro Ile Leu Pro Ala Ser Pro Asn Ala Thr Ile Val Gly
20 25 30
Gly Glu Lys Ala Leu Ala Gly Glu Cys Pro Tyr Gln Ile Ser Leu Gln
35 40 45
Ser Ser Ser His Phe Cys Gly Gly Thr Ile Leu Asp Glu Tyr Trp Ile

50	55	60
Leu Thr Ala Ala His Cys Val Ala Gly Gln Thr Ala Ser Lys Leu Ser		
65	70	75 80
Ile Arg Tyr Asn Ser Leu Lys His Ser Leu Gly Gly Glu Lys Ile Ser		
85	90	95
Val Ala Lys Ile Phe Ala His Glu Lys Tyr Asp Ser Tyr Gln Ile Asp		
100	105	110
Asn Asp Ile Ala Leu Ile Lys Leu Lys Ser Pro Met Lys Leu Asn Gln		
115	120	125
Lys Asn Ala Lys Ala Val Gly Leu Pro Ala Lys Gly Ser Asp Val Lys		
130	135	140
Val Gly Asp Gln Val Arg Val Ser Gly Trp Gly Tyr Leu Glu Glu Gly		
145	150	155 160
Ser Tyr Ser Leu Pro Ser Glu Leu Arg Arg Val Asp Ile Ala Val Val		
165	170	175
Ser Arg Lys Glu Cys Asn Glu Leu Tyr Ser Lys Ala Asn Ala Glu Val		
180	185	190
Thr Asp Asn Met Ile Cys Gly Gly Asp Val Ala Asn Gly Gly Lys Asp		
195	200	205
Ser Cys Gln Gly Asp Ser Gly Gly Pro Val Val Asp Val Lys Asn Asn		
210	215	220
Gln Val Val Gly Ile Val Ser Trp Gly Tyr Gly Cys Ala Arg Lys Gly		
225	230	235 240
Tyr Pro Gly Val Tyr Thr Arg Val Gly Asn Phe Ile Asp Trp Ile Glu		
245	250	255
Ser Lys Arg Ser Gln		
260		

<210> 82

<211> 19

<212> PRT

<213> Dermatophagoides pteronyssinus (House-dust mite)

<220>

<221> UNSURE

<222> 3, 16

<223> Xaa = any amino acid

<400> 82

Lys Tyr Xaa Asn Pro His Phe Ile Gly Xaa Arg Ser Val Ile Thr Xaa		
1	5	10 15
Leu Met Glu		

<210> 83

<211> 132

<212> PRT

<213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 83

Met Lys Phe Ile Ile Ala Phe Phe Val Ala Thr Leu Ala Val Met Thr		
1	5	10 15

Val Ser Gly Glu Asp Lys Lys His Asp Tyr Gln Asn Glu Phe Asp Phe		
20	25	30

Leu Leu Met Glu Arg Ile His Glu Gln Ile Lys Lys Gly Glu Leu Ala		
35	40	45

Leu Phe Tyr Leu Gln Glu Gln Ile Asn His Phe Glu Glu Lys Pro Thr		
50	55	60

Lys Glu Met Lys Asp Lys Ile Val Ala Glu Met Asp Thr Ile Ile Ala		
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65 70 75 80
Met Ile Asp Gly Val Arg Gly Val Leu Asp Arg Leu Met Gln Arg Lys
85 90 95
Asp Leu Asp Ile Phe Glu Gln Tyr Asn Leu Glu Met Ala Lys Lys Ser
100 105 110
Gly Asp Ile Leu Glu Arg Asp Leu Lys Lys Glu Glu Ala Arg Val Lys
115 120 125
Lys Ile Glu Val
130

<210> 84
<211> 20
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

<220>
<221> UNSURE
<222> 4
<223> Xaa = any amino acid

<400> 84
Ala Ile Gly Xaa Gln Pro Ala Ala Glu Ala Glu Ala Pro Phe Gln Ile
1 5 10 15
Ser Leu Met Lys
20

<210> 85
<211> 215
<212> PRT
<213> Dermatophagoides pteronyssinus (House-dust mite)

<400> 85
Met Met Lys Leu Leu Ile Ala Ala Ala Ala Phe Val Ala Val Ser
1 5 10 15
Ala Asp Pro Ile His Tyr Asp Lys Ile Thr Glu Glu Ile Asn Lys Ala
20 25 30
Val Asp Glu Ala Val Ala Ala Ile Glu Lys Ser Glu Thr Phe Asp Pro
35 40 45
Met Lys Val Pro Asp His Ser Asp Lys Phe Glu Arg His Ile Gly Ile
50 55 60
Ile Asp Leu Lys Gly Glu Leu Asp Met Arg Asn Ile Gln Val Arg Gly
65 70 75 80
Leu Lys Gln Met Lys Arg Val Gly Asp Ala Asn Val Lys Ser Glu Asp
85 90 95
Gly Val Val Lys Ala His Leu Leu Val Gly Val His Asp Asp Val Val
100 105 110
Ser Met Glu Tyr Asp Leu Ala Tyr Lys Leu Gly Asp Leu His Pro Asn
115 120 125
Thr His Val Ile Ser Asp Ile Gln Asp Phe Val Val Glu Leu Ser Leu
130 135 140
Glu Val Ser Glu Glu Gly Asn Met Thr Leu Thr Ser Phe Glu Val Arg
145 150 155 160
Gln Phe Ala Asn Val Val Asn His Ile Gly Gly Leu Ser Ile Leu Asp
165 170 175
Pro Ile Phe Ala Val Leu Ser Asp Val Leu Thr Ala Ile Phe Gln Asp
180 185 190
Thr Val Arg Ala Glu Met Thr Lys Val Leu Ala Pro Ala Phe Lys Lys
195 200 205
Glu Leu Glu Arg Asn Asn Gln

<210> 86
 <211> 203
 <212> PRT
 <213> Dolichovespula arenaria (Yellow hornet)

 <400> 86

 Asn Asn Tyr Cys Lys Ile Cys Pro Lys Gly Thr His Thr Leu Cys Lys
 1 5 10 15
 Tyr Gly Thr Ser Met Lys Pro Asn Cys Gly Gly Lys Ile Val Lys Ser
 20 25 30
 Tyr Gly Val Thr Asn Asp Glu Lys Asn Glu Ile Val Lys Arg His Asn
 35 40 45
 Glu Phe Arg Gln Lys Val Ala Gln Gly Leu Glu Thr Arg Gly Asn Pro
 50 55 60
 Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Leu Leu Val Trp Asn Asp
 65 70 75 80
 Glu Leu Ala Lys Ile Ala Gln Thr Trp Ala Asn Gln Cys Asn Phe Gly
 85 90 95
 His Asp Gln Cys Arg Asn Thr Ala Lys Tyr Pro Val Gly Gln Asn Val
 100 105 110
 Ala Ile Ala Ser Thr Thr Gly Asn Ser Tyr Gln Thr Met Ser Tyr Leu
 115 120 125
 Ile Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro His Lys Asp
 130 135 140
 Leu Met His Asn Asn Phe Ser Lys Val Gly His Tyr Thr Gln Met Val
 145 150 155 160
 Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly Ser Val Lys Tyr Ile Glu
 165 170 175
 Asn Lys Trp His Thr His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly
 180 185 190
 Asn Tyr Met Asn Gln Pro Val Tyr Glu Arg Lys
 195 200

<210> 87
 <211> 317
 <212> PRT
 <213> Dolichovespula maculata (White-face hornet)

 <400> 87

Arg Leu Ile Met Phe Val Gly Asp Pro Ser Ser Ser Asn Glu Leu Asp
 1 5 10 15
 Arg Phe Ser Val Cys Pro Phe Ser Asn Asp Thr Val Lys Met Ile Phe
 20 25 30
 Leu Thr Arg Glu Asn Arg Lys His Asp Phe Tyr Thr Leu Asp Thr Met
 35 40 45
 Asn Arg His Asn Glu Phe Lys Lys Ser Ile Ile Lys Arg Pro Val Val
 50 55 60
 Phe Ile Thr His Gly Phe Thr Ser Ser Ala Thr Glu Lys Asn Phe Val
 65 70 75 80
 Ala Met Ser Glu Ala Leu Met His Thr Gly Asp Phe Leu Ile Ile Met
 85 90 95
 Val Asp Trp Arg Met Ala Ala Cys Thr Asp Glu Tyr Pro Gly Leu Lys
 100 105 110
 Tyr Met Phe Tyr Lys Ala Ala Val Gly Asn Thr Arg Leu Val Gly Asn
 115 120 125
 Phe Ile Ala Met Ile Ala Lys Lys Leu Val Glu Gln Tyr Lys Val Pro
 130 135 140

Met Thr Asn Ile Arg Leu Val Gly His Ser Leu Gly Ala His Ile Ser
 145 150 155 160
 Gly Phe Ala Gly Lys Arg Val Gln Glu Leu Lys Leu Gly Lys Phe Ser
 165 170 175
 Glu Ile Ile Gly Leu Asp Pro Ala Gly Pro Ser Phe Lys Lys Asn Asp
 180 185 190
 Cys Ser Glu Arg Ile Cys Glu Thr Asp Ala His Tyr Val Gln Ile Leu
 195 200 205
 His Thr Ser Ser Asn Leu Gly Thr Glu Arg Thr Leu Gly Thr Val Asp
 210 215 220
 Phe Tyr Ile Asn Asn Gly Ser Asn Gln Pro Gly Cys Arg Tyr Ile Ile
 225 230 235 240
 Gly Glu Thr Cys Ser His Thr Arg Ala Val Lys Tyr Phe Thr Glu Cys
 245 250 255
 Ile Arg Arg Glu Cys Cys Leu Ile Gly Val Pro Gln Ser Lys Asn Pro
 260 265 270
 Gln Pro Val Ser Lys Cys Thr Arg Asn Glu Cys Val Cys Val Gly Leu
 275 280 285
 Asn Ala Lys Lys Tyr Pro Lys Arg Gly Ser Phe Tyr Val Pro Val Glu
 290 295 300
 Ala Glu Ala Pro Tyr Cys Asn Asn Gly Lys Ile Ile
 305 310 315

<210> 88
 <211> 303
 <212> PRT
 <213> Dolichovespula maculata (White-face hornet)

<400> 88
 Gly Ile Leu Pro Glu Cys Lys Leu Val Pro Glu Glu Ile Ser Phe Val
 1 5 10 15
 Leu Ser Thr Arg Glu Asn Arg Asp Gly Val Tyr Leu Thr Leu Gln Lys
 20 25 30
 Leu Lys Asn Gly Lys Met Phe Lys Asn Ser Asp Leu Ser Ser Lys Lys
 35 40 45
 Val Pro Phe Leu Ile His Gly Phe Ile Ser Ser Ala Thr Asn Lys Asn
 50 55 60
 Tyr Ala Asp Met Thr Arg Ala Leu Leu Asp Lys Asp Asp Ile Met Val
 65 70 75 80
 Ile Ser Ile Asp Trp Arg Asp Gly Ala Cys Ser Asn Glu Phe Ala Leu
 85 90 95
 Leu Lys Phe Ile Gly Tyr Pro Lys Ala Val Glu Asn Thr Arg Ala Val
 100 105 110
 Gly Lys Tyr Ile Ala Asp Phe Ser Lys Ile Leu Ile Gln Lys Tyr Lys
 115 120 125
 Val Leu Leu Glu Asn Ile Arg Leu Ile Gly His Ser Leu Gly Ala Gln
 130 135 140
 Ile Ala Gly Phe Ala Gly Lys Glu Phe Gln Arg Phe Lys Leu Gly Lys
 145 150 155 160
 Tyr Pro Glu Ile Ile Gly Leu Asp Pro Ala Gly Pro Ser Phe Lys Lys
 165 170 175
 Lys Asp Cys Pro Glu Arg Ile Cys Glu Thr Asp Ala His Tyr Val Gln
 180 185 190
 Ile Leu His Thr Ser Ser Asn Leu Gly Thr Glu Arg Thr Leu Gly Thr
 195 200 205
 Val Asp Phe Tyr Ile Asn Asp Gly Ser Asn Gln Pro Gly Cys Thr Tyr
 210 215 220
 Ile Ile Gly Glu Thr Cys Ser His Thr Arg Ala Val Lys Tyr Leu Thr
 225 230 235 240
 Glu Cys Ile Arg Arg Glu Cys Cys Leu Ile Gly Val Pro Gln Ser Lys

	245	250	255
Asn Pro Gln Pro Val Ser Lys Cys Thr Arg Asn Glu Cys Val Cys Val			
260	265	270	
Gly Leu Asn Ala Lys Glu Tyr Pro Lys Lys Gly Ser Phe Tyr Val Pro			
275	280	285	
Val Glu Ala Lys Ala Pro Phe Cys Asn Asn Asn Gly Lys Ile Ile			
290	295	300	

<210> 89

<211> 331

<212> PRT

<213> Dolichovespula maculata (White-face hornet)

<400> 89

Ser Glu Arg Pro Lys Arg Val Phe Asn Ile Tyr Trp Asn Val Pro Thr			
1	5	10	15
Phe Met Cys His Gln Tyr Gly Leu Tyr Phe Asp Glu Val Thr Asn Phe			
20	25	30	
Asn Ile Lys His Asn Ser Lys Asp Asp Phe Gln Gly Asp Lys Ile Ser			
35	40	45	
Ile Phe Tyr Asp Pro Gly Glu Phe Pro Ala Leu Leu Pro Leu Lys Glu			
50	55	60	
Gly Asn Tyr Lys Ile Arg Asn Gly Gly Val Pro Gln Glu Gly Asn Ile			
65	70	75	80
Thr Ile His Leu Gln Arg Phe Ile Glu Asn Leu Asp Lys Thr Tyr Pro			
85	90	95	
Asn Arg Asn Phe Asn Gly Ile Gly Val Ile Asp Phe Glu Arg Trp Arg			
100	105	110	
Pro Ile Phe Arg Gln Asn Trp Gly Asn Met Met Ile His Lys Lys Phe			
115	120	125	
Ser Ile Asp Leu Val Arg Asn Glu His Pro Phe Trp Asp Lys Lys Met			
130	135	140	
Ile Glu Leu Glu Ala Ser Lys Arg Phe Glu Lys Tyr Ala Arg Leu Phe			
145	150	155	160
Met Glu Glu Thr Leu Lys Leu Ala Lys Lys Thr Arg Lys Gln Ala Asp			
165	170	175	
Trp Gly Tyr Tyr Gly Tyr Pro Tyr Cys Phe Asn Met Ser Pro Asn Asn			
180	185	190	
Leu Val Pro Asp Cys Asp Ala Thr Ala Met Leu Glu Asn Asp Lys Met			
195	200	205	
Ser Trp Leu Phe Asn Asn Gln Asn Val Leu Leu Pro Ser Val Tyr Ile			
210	215	220	
Arg His Glu Leu Thr Pro Asp Gln Arg Val Gly Leu Val Gln Gly Arg			
225	230	235	240
Val Lys Glu Ala Val Arg Ile Ser Asn Asn Leu Lys His Ser Pro Lys			
245	250	255	
Val Leu Ser Tyr Trp Trp Tyr Val Tyr Gln Asp Asp Thr Asn Thr Phe			
260	265	270	
Leu Thr Glu Thr Asp Val Lys Lys Thr Phe Gln Glu Ile Ala Ile Asn			
275	280	285	
Gly Gly Asp Gly Ile Ile Ile Trp Gly Ser Ser Ser Asp Val Asn Ser			
290	295	300	
Leu Ser Lys Cys Lys Arg Leu Arg Glu Tyr Leu Leu Thr Val Leu Gly			
305	310	315	320
Pro Ile Thr Val Asn Val Thr Glu Thr Val Asn			
325	330		

<210> 90

<211> 227

<212> PRT

<213> Dolichovespula maculata (White-face hornet)

<400> 90

Met Glu Ile Gly Gly Leu Val Tyr Leu Ile Leu Ile Thr Ile Ile
1 5 10 15
Asn Leu Ser Phe Gly Glu Thr Asn Asn Tyr Cys Lys Ile Lys Cys Arg
20 25 30
Lys Gly Ile His Thr Leu Cys Lys Phe Gly Thr Ser Met Lys Pro Asn
35 40 45
Cys Gly Arg Asn Val Val Lys Ala Tyr Gly Leu Thr Asn Asp Glu Lys
50 55 60
Asn Glu Ile Leu Lys Arg His Asn Asp Phe Arg Gln Asn Val Ala Lys
65 70 75 80
Gly Leu Glu Thr Arg Gly Lys Pro Gly Pro Gln Pro Pro Ala Lys Asn
85 90 95
Met Asn Val Leu Val Trp Asn Asp Glu Leu Ala Lys Ile Ala Gln Thr
100 105 110
Trp Ala Asn Gln Cys Asp Phe Asn His Asp Asp Cys Arg Asn Thr Ala
115 120 125
Lys Tyr Gln Val Gly Gln Asn Ile Ala Ile Ser Ser Thr Thr Ala Thr
130 135 140
Gln Phe Asp Arg Pro Ser Lys Leu Ile Lys Gln Trp Glu Asp Glu Val
145 150 155 160
Thr Glu Phe Asn Tyr Lys Val Gly Leu Gln Asn Ser Asn Phe Arg Lys
165 170 175
Val Gly His Tyr Thr Gln Met Val Trp Gly Lys Thr Lys Glu Ile Gly
180 185 190
Cys Gly Ser Ile Lys Tyr Ile Glu Asp Asn Trp Tyr Thr His Tyr Leu
195 200 205
Val Cys Asn Tyr Gly Pro Gly Asn Asp Phe Asn Gln Pro Ile Tyr
210 215 220
Glu Arg Lys
225

<210> 91

<211> 215

<212> PRT

<213> Dolichovespula maculata (White-face hornet)

<400> 91

Pro Ile Ile Asn Leu Ser Phe Gly Glu Ala Asn Asn Tyr Cys Lys Ile
1 5 10 15
Lys Cys Ser Arg Gly Ile His Thr Leu Cys Lys Phe Gly Thr Ser Met
20 25 30
Lys Pro Asn Cys Gly Ser Lys Leu Val Lys Val His Gly Val Ser Asn
35 40 45
Asp Glu Lys Asn Glu Ile Val Asn Arg His Asn Gln Phe Arg Gln Lys
50 55 60
Val Ala Lys Gly Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Pro
65 70 75 80
Ala Lys Asn Met Asn Val Leu Val Trp Asn Asp Glu Leu Ala Lys Ile
85 90 95
Ala Gln Thr Trp Ala Asn Gln Cys Ser Phe Gly His Asp Gln Cys Arg
100 105 110
Asn Thr Glu Lys Tyr Gln Val Gly Gln Asn Val Ala Ile Ala Ser Thr
115 120 125
Thr Gly Asn Ser Tyr Ala Thr Met Ser Lys Leu Ile Glu Met Trp Glu
130 135 140
Asn Glu Val Lys Asp Phe Asn Pro Lys Lys Gly Thr Met Gly Asp Asn

145 150 155 160
Asn Phe Ser Lys Val Gly His Tyr Thr Gln Met Val Trp Gly Lys Thr
165 170 175
Lys Glu Ile Gly Cys Gly Ser Val Lys Tyr Ile Glu Asn Asn Trp His
180 185 190
Thr His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn Tyr Met Asp
195 200 205
Gln Pro Ile Tyr Glu Arg Lys
210 215

<210> 92
<211> 187
<212> PRT
<213> Equus caballus (Horse)

<400> 92
Met Lys Leu Leu Leu Cys Leu Gly Leu Ile Leu Val Cys Ala Gln
1 5 10 15
Gln Glu Glu Asn Ser Asp Val Ala Ile Arg Asn Phe Asp Ile Ser Lys
20 25 30
Ile Ser Gly Glu Trp Tyr Ser Ile Phe Leu Ala Ser Asp Val Lys Glu
35 40 45
Lys Ile Glu Glu Asn Gly Ser Met Arg Val Phe Val Asp Val Ile Arg
50 55 60
Ala Leu Asp Asn Ser Ser Leu Tyr Ala Glu Tyr Gln Thr Lys Val Asn
65 70 75 80
Gly Glu Cys Thr Glu Phe Pro Met Val Phe Asp Lys Thr Glu Glu Asp
85 90 95
Gly Val Tyr Ser Leu Asn Tyr Asp Gly Tyr Asn Val Phe Arg Ile Ser
100 105 110
Glu Phe Glu Asn Asp Glu His Ile Ile Leu Tyr Leu Val Asn Phe Asp
115 120 125
Lys Asp Arg Pro Phe Gln Leu Phe Glu Phe Tyr Ala Arg Glu Pro Asp
130 135 140
Val Ser Pro Glu Ile Lys Glu Glu Phe Val Lys Ile Val Gln Lys Arg
145 150 155 160
Gly Ile Val Lys Glu Asn Ile Ile Asp Leu Thr Lys Ile Asp Arg Cys
165 170 175
Phe Gln Leu Arg Gly Asn Gly Val Ala Gln Ala
180 185

<210> 93
<211> 29
<212> PRT
<213> Equus caballus (Horse)

<220>
<221> UNSURE
<222> 3, 28
<223> Xaa = any amino acid

<400> 93
Ser Gln Xaa Pro Gln Ser Glu Thr Asp Tyr Ser Gln Leu Ser Gly Glu
1 5 10 15
Trp Asn Thr Ile Tyr Gly Ala Ala Ser Asn Ile Xaa Lys
20 25

<210> 94

<211> 19
<212> PRT
<213> Equus caballus (Horse)

<220>
<221> UNSURE
<222> 1
<223> Xaa = any amino acid

<400> 94
Xaa Gln Asp Pro Gln Ser Glu Thr Asp Tyr Ser Gln Leu Ser Gly Glu
1 5 10 15
Trp Asn Thr

<210> 95
<211> 211
<212> PRT
<213> Euroglyphus maynei (House-dust mite)

<400> 95
Thr Tyr Ala Cys Ser Ile Asn Ser Val Ser Leu Pro Ser Glu Leu Asp
1 5 10 15
Leu Arg Ser Leu Arg Thr Val Thr Pro Ile Arg Met Gln Gly Gly Cys
20 25 30
Gly Ser Cys Trp Ala Phe Ser Gly Val Ala Ser Thr Glu Ser Ala Tyr
35 40 45
Leu Ala Tyr Arg Asn Met Ser Leu Asp Leu Ala Glu Gln Glu Leu Val
50 55 60
Asp Cys Ala Ser Gln Asn Gly Cys His Gly Asp Thr Ile Pro Arg Gly
65 70 75 80
Ile Glu Tyr Ile Gln Gln Asn Gly Val Val Gln Glu His Tyr Tyr Pro
85 90 95
Tyr Val Ala Arg Glu Gln Ser Cys His Arg Pro Asn Ala Gln Arg Tyr
100 105 110
Gly Leu Lys Asn Tyr Cys Gln Ile Ser Pro Pro Asp Ser Asn Lys Ile
115 120 125
Arg Gln Ala Leu Thr Gln Thr His Thr Ala Val Ala Val Ile Ile Gly
130 135 140
Ile Lys Asp Leu Asn Ala Phe Arg His Tyr Asp Gly Arg Thr Ile Met
145 150 155 160
Gln His Asp Asn Gly Tyr Gln Pro Asn Tyr His Ala Val Asn Ile Val
165 170 175
Gly Tyr Gly Asn Thr Gln Gly Val Asp Tyr Trp Ile Val Arg Asn Ser
180 185 190
Trp Asp Thr Thr Trp Gly Asp Asn Gly Tyr Gly Tyr Phe Ala Ala Asn
195 200 205
Ile Asn Leu
210

<210> 96
<211> 92
<212> PRT
<213> Felis silvestris catus (Cat)

<400> 96
Met Lys Gly Ala Cys Val Leu Val Leu Leu Trp Ala Ala Leu Leu Leu
1 5 10 15
Ile Ser Gly Gly Asn Cys Glu Ile Cys Pro Ala Val Lys Arg Asp Val

20 25 30
Asp Leu Phe Leu Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val Ala
35 40 45
Gln Tyr Lys Ala Leu Pro Val Val Leu Glu Asn Ala Arg Ile Leu Lys
50 55 60
Asn Cys Val Asp Ala Lys Met Thr Glu Glu Asp Lys Glu Asn Ala Leu
65 70 75 80
Ser Val Leu Asp Lys Ile Tyr Thr Ser Pro Leu Cys
85 90

Bl
cont.
<210> 97

<211> 88

<212> PRT

<213> Felis silvestris catus (Cat)

<400> 97

Met Leu Asp Ala Ala Leu Pro Pro Cys Pro Thr Val Ala Ala Thr Ala
1 5 10 15
Asp Cys Glu Ile Cys Pro Ala Val Lys Arg Asp Val Asp Leu Phe Leu
20 25 30
Thr Gly Thr Pro Asp Glu Tyr Val Glu Gln Val Ala Gln Tyr Lys Ala
35 40 45
Leu Pro Val Val Leu Glu Asn Ala Arg Ile Leu Lys Asn Cys Val Asp
50 55 60
Ala Lys Met Thr Glu Glu Asp Lys Glu Asn Ala Leu Ser Val Leu Asp
65 70 75 80
Lys Ile Tyr Thr Ser Pro Leu Cys
85

<210> 98

<211> 109

<212> PRT

<213> Felis silvestris catus (Cat)

<400> 98

Met Arg Gly Ala Leu Leu Val Leu Ala Leu Leu Val Thr Gln Ala Leu
1 5 10 15
Gly Val Lys Met Ala Glu Thr Cys Pro Ile Phe Tyr Asp Val Phe Phe
20 25 30
Ala Val Ala Asn Gly Asn Glu Leu Leu Leu Asp Leu Ser Leu Thr Lys
35 40 45
Val Asn Ala Thr Glu Pro Glu Arg Thr Ala Met Lys Lys Ile Gln Asp
50 55 60
Cys Tyr Val Glu Asn Gly Leu Ile Ser Arg Val Leu Asp Gly Leu Val
65 70 75 80
Met Thr Thr Ile Ser Ser Ser Lys Asp Cys Met Gly Glu Ala Val Gln
85 90 95
Asn Thr Val Glu Asp Leu Lys Leu Asn Thr Leu Gly Arg
100 105

<210> 99

<211> 113

<212> PRT

<213> Gadus callarias (Baltic cod)

<400> 99

Ala Phe Lys Gly Ile Leu Ser Asn Ala Asp Ile Lys Ala Ala Glu Ala
1 5 10 15

Ala Cys Phe Lys Glu Gly Ser Phe Asp Glu Asp Gly Phe Tyr Ala Lys
20 25 30
Val Gly Leu Asp Ala Phe Ser Ala Asp Glu Leu Lys Lys Leu Phe Lys
35 40 45
Ile Ala Asp Glu Asp Lys Glu Gly Phe Ile Glu Glu Asp Glu Leu Lys
50 55 60
Leu Phe Leu Ile Ala Phe Ala Ala Asp Leu Arg Ala Leu Thr Asp Ala
65 70 75 80
Glu Thr Lys Ala Phe Leu Lys Ala Gly Asp Ser Asp Gly Asp Gly Lys
85 90 95
Ile Gly Val Asp Glu Phe Gly Ala Leu Val Asp Lys Trp Gly Ala Lys
100 105 110
Gly

<210> 100

<211> 210

<212> PRT

<213> Gallus gallus (Chicken)

<400> 100

Met Ala Met Ala Gly Val Phe Val Leu Phe Ser Phe Val Leu Cys Gly
1 5 10 15
Phe Leu Pro Asp Ala Ala Phe Gly Ala Glu Val Asp Cys Ser Arg Phe
20 25 30
Pro Asn Ala Thr Asp Lys Glu Gly Lys Asp Val Leu Val Cys Asn Lys
35 40 45
Asp Leu Arg Pro Ile Cys Gly Thr Asp Gly Val Thr Tyr Thr Asn Asp
50 55 60
Cys Leu Leu Cys Ala Tyr Ser Ile Glu Phe Gly Thr Asn Ile Ser Lys
65 70 75 80
Glu His Asp Gly Glu Cys Lys Glu Thr Val Pro Met Asn Cys Ser Ser
85 90 95
Tyr Ala Asn Thr Thr Ser Glu Asp Gly Lys Val Met Val Leu Cys Asn
100 105 110
Arg Ala Phe Asn Pro Val Cys Gly Thr Asp Gly Val Thr Tyr Asp Asn
115 120 125
Glu Cys Leu Leu Cys Ala His Lys Val Glu Gln Gly Ala Ser Val Asp
130 135 140
Lys Arg His Asp Gly Gly Cys Arg Lys Glu Leu Ala Ala Val Ser Val
145 150 155 160
Asp Cys Ser Glu Tyr Pro Lys Pro Asp Cys Thr Ala Glu Asp Arg Pro
165 170 175
Leu Cys Gly Ser Asp Asn Lys Thr Tyr Gly Asn Lys Cys Asn Phe Cys
180 185 190
Asn Ala Val Val Glu Ser Asn Gly Thr Leu Thr Leu Ser His Phe Gly
195 200 205
Lys Cys
210

<210> 101

<211> 385

<212> PRT

<213> Gallus gallus (Chicken)

<400> 101

Gly Ser Ile Gly Ala Ala Ser Met Glu Phe Cys Phe Asp Val Phe Lys
1 5 10 15
Glu Leu Lys Val His His Ala Asn Glu Asn Ile Phe Tyr Cys Pro Ile

	20	25	30												
Ala	Ile	Met	Ser	Ala	Leu	Ala	Met	Val	Tyr	Leu	Gly	Ala	Lys	Asp	Ser
		35					40				45				
Thr	Arg	Thr	Gln	Ile	Asn	Lys	Val	Val	Arg	Phe	Asp	Lys	Leu	Pro	Gly
			50			55				60					
Phe	Gly	Asp	Ser	Ile	Glu	Ala	Gln	Cys	Gly	Thr	Ser	Val	Asn	Val	His
				65		70			75						80
Ser	Ser	Leu	Arg	Asp	Ile	Leu	Asn	Gln	Ile	Thr	Lys	Pro	Asn	Asp	Val
					85				90						95
Tyr	Ser	Phe	Ser	Leu	Ala	Ser	Arg	Leu	Tyr	Ala	Glu	Glu	Arg	Tyr	Pro
					100			105							110
Ile	Leu	Pro	Glu	Tyr	Leu	Gln	Cys	Val	Lys	Glu	Leu	Tyr	Arg	Gly	Gly
					115			120				125			
Leu	Glu	Pro	Ile	Asn	Phe	Gln	Thr	Ala	Ala	Asp	Gln	Ala	Arg	Glu	Leu
					130			135			140				
Ile	Asn	Ser	Trp	Val	Glu	Ser	Gln	Thr	Asn	Gly	Ile	Ile	Arg	Asn	Val
					145			150			155				160
Leu	Gln	Pro	Ser	Ser	Val	Asp	Ser	Gln	Thr	Ala	Met	Val	Leu	Val	Asn
						165			170			175			
Ala	Ile	Val	Phe	Lys	Gly	Leu	Trp	Glu	Lys	Ala	Phe	Lys	Asp	Glu	Asp
					180			185				190			
Thr	Gln	Ala	Met	Pro	Phe	Arg	Val	Thr	Glu	Gln	Glu	Ser	Lys	Pro	Val
					195			200			205				
Gln	Met	Met	Tyr	Gln	Ile	Gly	Leu	Phe	Arg	Val	Ala	Ser	Met	Ala	Ser
					210			215			220				
Glu	Lys	Met	Lys	Ile	Leu	Glu	Leu	Pro	Phe	Ala	Ser	Gly	Thr	Met	Ser
					225			230			235				240
Met	Leu	Val	Leu	Leu	Pro	Asp	Glu	Val	Ser	Gly	Leu	Glu	Gln	Leu	Glu
						245			250			255			
Ser	Ile	Ile	Asn	Phe	Glu	Lys	Leu	Thr	Glu	Trp	Thr	Ser	Ser	Asn	Val
					260			265			270				
Met	Glu	Glu	Arg	Lys	Ile	Lys	Val	Tyr	Leu	Pro	Arg	Met	Lys	Met	Glu
					275			280			285				
Glu	Lys	Tyr	Asn	Leu	Thr	Ser	Val	Leu	Met	Ala	Met	Gly	Ile	Thr	Asp
					290			295			300				
Val	Phe	Ser	Ser	Ser	Ala	Asn	Leu	Ser	Gly	Ile	Ser	Ser	Ala	Glu	Ser
						305			310			315			320
Leu	Lys	Ile	Ser	Gln	Ala	Val	His	Ala	Ala	His	Ala	Glu	Ile	Asn	Glu
							325			330			335		
Ala	Gly	Arg	Glu	Val	Val	Gly	Ser	Ala	Glu	Ala	Gly	Val	Asp	Ala	Ala
						340			345			350			
Ser	Val	Ser	Glu	Glu	Phe	Arg	Ala	Asp	His	Pro	Phe	Leu	Phe	Cys	Ile
					355			360			365				
Lys	His	Ile	Ala	Thr	Asn	Ala	Val	Leu	Phe	Phe	Gly	Arg	Cys	Val	Ser
					370			375			380				
Pro															
	385														

<210> 102

<211> 705

<212> PRT

<213> Gallus gallus (Chicken)

<400> 102

Met	Lys	Leu	Ile	Leu	Cys	Thr	Val	Leu	Ser	Leu	Gly	Ile	Ala	Ala	Val
1					5				10					15	

Cys	Phe	Ala	Ala	Pro	Pro	Lys	Ser	Val	Ile	Arg	Trp	Cys	Thr	Ile	Ser
						20			25			30			

Ser	Pro	Glu	Glu	Lys	Lys	Cys	Asn	Asn	Leu	Arg	Asp	Leu	Thr	Gln	Gln
						35			40			45			

Glu Arg Ile Ser Leu Thr Cys Val Gln Lys Ala Thr Tyr Leu Asp Cys
50 55 60
Ile Lys Ala Ile Ala Asn Asn Glu Ala Asp Ala Ile Ser Leu Asp Gly
65 70 75 80
Gly Gln Ala Phe Glu Ala Gly Leu Ala Pro Tyr Lys Leu Lys Pro Ile
85 90 95
Ala Ala Glu Val Tyr Glu His Thr Glu Gly Ser Thr Thr Ser Tyr Tyr
100 105 110
Ala Val Ala Val Val Lys Lys Gly Thr Glu Phe Thr Val Asn Asp Leu
115 120 125
Gln Gly Lys Thr Ser Cys His Thr Gly Leu Gly Arg Ser Ala Gly Trp
130 135 140
Asn Ile Pro Ile Gly Thr Leu Leu His Arg Gly Ala Ile Glu Trp Glu
145 150 155 160
Gly Ile Glu Ser Gly Ser Val Glu Gln Ala Val Ala Lys Phe Phe Ser
165 170 175
Ala Ser Cys Val Pro Gly Ala Thr Ile Glu Gln Lys Leu Cys Arg Gln
180 185 190
Cys Lys Gly Asp Pro Lys Thr Lys Cys Ala Arg Asn Ala Pro Tyr Ser
195 200 205
Gly Tyr Ser Gly Ala Phe His Cys Leu Lys Asp Gly Lys Gly Asp Val
210 215 220
Ala Phe Val Lys His Thr Thr Val Asn Glu Asn Ala Pro Asp Gln Lys
225 230 235 240
Asp Glu Tyr Glu Leu Leu Cys Leu Asp Gly Ser Arg Gln Pro Val Asp
245 250 255
Asn Tyr Lys Thr Cys Asn Trp Ala Arg Val Ala Ala His Ala Val Val
260 265 270
Ala Arg Asp Asp Asn Lys Val Glu Asp Ile Trp Ser Phe Leu Ser Lys
275 280 285
Ala Gln Ser Asp Phe Gly Val Asp Thr Lys Ser Asp Phe His Leu Phe
290 295 300
Gly Pro Pro Gly Lys Lys Asp Pro Val Leu Lys Asp Leu Leu Phe Lys
305 310 315 320
Asp Ser Ala Ile Met Leu Lys Arg Val Pro Ser Leu Met Asp Ser Gln
325 330 335
Leu Tyr Leu Gly Phe Glu Tyr Tyr Ser Ala Ile Gln Ser Met Arg Lys
340 345 350
Asp Gln Leu Thr Pro Ser Pro Arg Glu Asn Arg Ile Gln Trp Cys Ala
355 360 365
Val Gly Lys Asp Glu Lys Ser Lys Cys Asp Arg Trp Ser Val Val Ser
370 375 380
Asn Gly Asp Val Glu Cys Thr Val Val Asp Glu Thr Lys Asp Cys Ile
385 390 395 400
Ile Lys Ile Met Lys Gly Glu Ala Asp Ala Val Ala Leu Asp Gly Gly
405 410 415
Leu Val Tyr Thr Ala Gly Val Cys Gly Leu Val Pro Val Met Ala Glu
420 425 430
Arg Tyr Asp Asp Glu Ser Gln Cys Ser Lys Thr Asp Glu Arg Pro Ala
435 440 445
Ser Tyr Phe Ala Val Ala Val Ala Arg Lys Asp Ser Asn Val Asn Trp
450 455 460
Asn Asn Leu Lys Gly Lys Lys Ser Cys His Thr Ala Val Gly Arg Thr
465 470 475 480
Ala Gly Trp Val Ile Pro Met Gly Leu Ile His Asn Arg Thr Gly Thr
485 490 495
Cys Asn Phe Asp Glu Tyr Phe Ser Glu Gly Cys Ala Pro Gly Ser Pro
500 505 510
Pro Asn Ser Arg Leu Cys Gln Leu Cys Gln Gly Ser Gly Gly Ile Pro
515 520 525
Pro Glu Lys Cys Val Ala Ser Ser His Glu Lys Tyr Phe Gly Tyr Thr

530	535	540
Gly Ala Leu Arg Cys	Leu Val Glu Lys Gly	Asp Val Ala Phe Ile Gln
545	550	555
His Ser Thr Val Glu	Glu Asn Thr Gly	Gly Lys Asn Lys Ala Asp Trp
	565	570
Ala Lys Asn Leu Gln	Met Asp Asp	Phe Glu Leu Leu Cys Thr Asp Gly
	580	585
Arg Arg Ala Asn Val	Met Asp Tyr	Arg Glu Cys Asn Leu Ala Glu Val
	595	600
Pro Thr His Ala Val	Val Val Arg	Pro Glu Lys Ala Asn Lys Ile Arg
	610	615
Asp Leu Leu Glu Arg	Gln Glu Lys Arg	Phe Gly Val Asn Gly Ser Glu
	625	630
Lys Ser Lys Phe Met	Met Phe Glu Ser	Gln Asn Lys Asp Leu Leu Phe
	645	650
Lys Asp Leu Thr Lys	Cys Leu Phe	Lys Val Arg Glu Gly Thr Thr Tyr
	660	665
Lys Glu Phe Leu Gly	Asp Lys Phe	Tyr Thr Val Ile Ser Ser Leu Lys
	675	680
Thr Cys Asn Pro Ser Asp	Ile Leu Gln	Met Cys Ser Phe Leu Glu Gly
	690	695
Lys		700
705		

<210> 103
 <211> 147
 <212> PRT
 <213> Gallus gallus (Chicken)

400	103			
Met Arg Ser Leu Leu Ile Leu Val Leu Cys	Phe Leu Pro Leu Ala Ala			
1	5	10	15	
Leu Gly Lys Val Phe Gly Arg Cys	Glu Leu Ala Ala Ala Met Lys Arg			
	20	25	30	
His Gly Leu Asp Asn Tyr Arg	Gly Tyr Ser Leu Gly Asn Trp Val Cys			
	35	40	45	
Ala Ala Lys Phe Glu Ser Asn	Phe Asn Thr Gln Ala Thr Asn Arg Asn			
	50	55	60	
Thr Asp Gly Ser Thr Asp Tyr Gly	Ile Leu Gln Ile Asn Ser Arg Trp			
	65	70	75	80
Trp Cys Asn Asp Gly Arg Thr Pro	Gly Ser Arg Asn Leu Cys Asn Ile			
	85	90	95	
Pro Cys Ser Ala Leu Leu Ser	Ser Asp Ile Thr Ala Ser Val Asn Cys			
	100	105	110	
Ala Lys Lys Ile Val Ser Asp	Gly Asn Gly Met Asn Ala Trp Val Ala			
	115	120	125	
Trp Arg Asn Arg Cys Lys	Gly Thr Asp Val Gln Ala Trp Ile Arg Gly			
	130	135	140	
Cys Arg Leu				
145				

<210> 104
 <211> 133
 <212> PRT
 <213> Helianthus annuus (Common sunflower)

400	104		
Met Ser Trp Gln Ala Tyr Val Asp Glu His	Leu Met Cys Asp Ile Glu		
1	5	10	15

Gly Thr Gly Gln His Leu Thr Ser Ala Ala Ile Leu Gly Leu Asp Gly
20 25 30
Thr Val Trp Ala Gln Ser Ala Lys Phe Pro Gln Phe Lys Pro Glu Glu
35 40 45
Met Lys Gly Ile Ile Lys Glu Phe Asp Glu Ala Gly Thr Leu Ala Pro
50 55 60
Thr Gly Met Phe Ile Ala Gly Ala Lys Tyr Met Val Leu Gln Gly Glu
65 70 75 80
Pro Gly Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Cys Ile
85 90 95
Lys Lys Thr Gly Gln Ala Met Ile Met Gly Ile Tyr Asp Glu Pro Val
100 105 110
Ala Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
115 120 125
Leu Glu Gln Gly Met
130

<210> 105

<211> 137

<212> PRT

<213> *Hevea brasiliensis* (Para rubber tree)

<400> 105
Ala Glu Asp Glu Asp Asn Gln Gln Gly Glu Gly Leu Lys Tyr
1 5 10 15
Leu Gly Phe Val Gln Asp Ala Ala Thr Tyr Ala Val Thr Thr Phe Ser
20 25 30
Asn Val Tyr Leu Phe Ala Lys Asp Lys Ser Gly Pro Leu Gln Pro Gly
35 40 45
Val Asp Ile Ile Glu Gly Pro Val Lys Asn Val Ala Val Pro Leu Tyr
50 55 60
Asn Arg Phe Ser Tyr Ile Pro Asn Gly Ala Leu Lys Phe Val Asp Ser
65 70 75 80
Thr Val Val Ala Ser Val Thr Ile Ile Asp Arg Ser Leu Pro Pro Ile
85 90 95
Val Lys Asp Ala Ser Ile Gln Val Val Ser Ala Ile Arg Ala Ala Pro
100 105 110
Glu Ala Ala Arg Ser Leu Ala Ser Ser Leu Pro Gly Gln Thr Lys Ile
115 120 125
Leu Ala Lys Val Phe Tyr Gly Glu Asn
130 135

<210> 106

<211> 150

<212> PRT

<213> *Hevea brasiliensis* (Para rubber tree)

<400> 106
Ala Ser Val Glu Val Glu Ser Ala Ala Thr Ala Leu Pro Lys Asn Glu
1 5 10 15
Thr Pro Glu Val Thr Lys Ala Glu Glu Thr Lys Thr Glu Glu Pro Ala
20 25 30
Ala Pro Pro Ala Ser Glu Gln Glu Thr Ala Asp Ala Thr Pro Glu Lys
35 40 45
Glu Glu Pro Thr Ala Ala Pro Ala Glu Pro Glu Ala Pro Ala Pro Glu
50 55 60
Thr Glu Lys Ala Glu Glu Val Glu Lys Ile Glu Lys Thr Glu Glu Pro
65 70 75 80
Ala Pro Glu Ala Asp Gln Thr Thr Pro Glu Glu Lys Pro Ala Glu Pro

	85		90		95										
Glu	Pro	Val	Ala	Glu	Glu	Glu	Pro	Lys	His	Glu	Thr	Lys	Glu	Thr	Glu
				100				105			110				
Thr	Glu	Ala	Pro	Ala	Ala	Pro	Ala	Glu	Gly	Glu	Lys	Pro	Ala	Glu	Glu
				115				120			125				
Glu	Lys	Pro	Ile	Thr	Glu	Ala	Ala	Glu	Thr	Ala	Thr	Thr	Glu	Val	Pro
				130				135			140				
Val	Glu	Lys	Thr	Glu	Glu										
				145				150							

<210> 107

<211> 265

<212> PRT

<213> Holcus lanatus (Velvet grass)

<400> 107

Met	Ala	Ser	Ser	Ser	Arg	Ser	Val	Leu	Leu	Leu	Val	Ala	Ala	Leu	Phe
1								5		10					15
Ala	Val	Phe	Leu	Gly	Ser	Ala	His	Gly	Ile	Ala	Lys	Val	Pro	Pro	Gly
								20		25					30
Pro	Asn	Ile	Thr	Ala	Thr	Tyr	Gly	Asp	Glu	Trp	Leu	Asp	Ala	Lys	Ser
								35		40					45
Thr	Trp	Tyr	Gly	Lys	Pro	Thr	Gly	Ala	Gly	Pro	Lys	Asp	Asn	Gly	Gly
								50		55					60
Ala	Cys	Gly	Tyr	Lys	Asp	Val	Asp	Lys	Pro	Pro	Phe	Ser	Gly	Met	Thr
								65		70		75			80
Gly	Cys	Gly	Asn	Thr	Pro	Ile	Phe	Lys	Asp	Gly	Arg	Gly	Cys	Gly	Ser
								85		90					95
Cys	Phe	Glu	Ile	Lys	Cys	Thr	Lys	Pro	Glu	Ser	Cys	Ser	Gly	Glu	Pro
								100		105					110
Val	Thr	Val	His	Ile	Thr	Asp	Asp	Asn	Glu	Glu	Pro	Ile	Ala	Pro	Tyr
								115		120					125
His	Phe	Asp	Leu	Ser	Gly	His	Ala	Phe	Gly	Ser	Met	Ala	Lys	Lys	Gly
								130		135					140
Glu	Glu	Gln	Lys	Leu	Arg	Ser	Ala	Gly	Glu	Leu	Glu	Leu	Lys	Phe	Arg
								145		150					160
Arg	Val	Lys	Cys	Lys	Tyr	Pro	Asp	Gly	Thr	Lys	Pro	Thr	Phe	His	Val
								165		170					175
Glu	Lys	Gly	Ser	Asn	Pro	Asn	Tyr	Leu	Ala	Leu	Leu	Val	Lys	Tyr	Ile
								180		185					190
Asp	Gly	Asp	Gly	Asp	Val	Val	Ala	Val	Asp	Ile	Lys	Glu	Lys	Gly	Lys
								195		200					205
Asp	Lys	Trp	Ile	Glu	Leu	Lys	Glu	Ser	Trp	Gly	Ala	Val	Trp	Arg	Val
								210		215					220
Asp	Thr	Pro	Asp	Lys	Leu	Thr	Gly	Pro	Phe	Thr	Val	Arg	Tyr	Thr	Thr
								225		230					240
Glu	Gly	Gly	Thr	Lys	Gly	Glu	Ala	Glu	Asp	Val	Ile	Pro	Glu	Gly	Trp
								245		250					255
Lys	Ala	Asp	Thr	Ala	Tyr	Glu	Ala	Lys							
								260		265					

<210> 108

<211> 146

<212> PRT

<213> Hordeum vulgare (Barley)

<400> 108

Pro	Thr	Ser	Val	Ala	Val	Asp	Gln	Gly	Ser	Met	Val	Ser	Asn	Ser	Pro
1							5			10					15

Gly Glu Trp Cys Trp Pro Gly Met Gly Tyr Pro Val Tyr Pro Phe Pro
 20 25 30
 Arg Cys Arg Ala Leu Val Lys Ser Gln Cys Ala Gly Gly Gln Val Val
 35 40 45
 Glu Ser Ile Gln Lys Asp Cys Cys Arg Gln Ile Ala Ala Ile Gly Asp
 50 55 60
 Glu Trp Cys Ile Cys Gly Ala Leu Gly Ser Met Arg Gly Ser Met Tyr
 65 70 75 80
 Lys Glu Leu Gly Val Ala Leu Ala Asp Asp Lys Ala Thr Val Ala Glu
 85 90 95
 Val Phe Pro Gly Cys Arg Thr Glu Val Met Asp Arg Ala Val Ala Ser
 100 105 110
 Leu Pro Ala Val Cys Asn Gln Tyr Ile Pro Asn Thr Asn Gly Thr Asp
 115 120 125
 Gly Val Cys Tyr Trp Leu Ser Tyr Tyr Gln Pro Pro Arg Gln Met Ser
 130 135 140
 Ser Arg
 145

<210> 109
 <211> 367
 <212> PRT
 <213> Juniperus ashei (Ozark white cedar)

<400> 109
 Met Ala Ser Pro Cys Leu Ile Ala Val Leu Val Phe Leu Cys Ala Ile
 1 5 10 15
 Val Ser Cys Tyr Ser Asp Asn Pro Ile Asp Ser Cys Trp Arg Gly Asp
 20 25 30
 Ser Asn Trp Asp Gln Asn Arg Met Lys Leu Ala Asp Cys Ala Val Gly
 35 40 45
 Phe Gly Ser Ser Thr Met Gly Gly Lys Gly Asp Phe Tyr Thr Val
 50 55 60
 Thr Ser Thr Asp Asp Asn Pro Val Asn Pro Thr Pro Gly Thr Leu Arg
 65 70 75 80
 Tyr Gly Ala Thr Arg Glu Lys Ala Leu Trp Ile Ile Phe Ser Gln Asn
 85 90 95
 Met Asn Ile Lys Leu Lys Met Pro Leu Tyr Val Ala Gly His Lys Thr
 100 105 110
 Ile Asp Gly Arg Gly Ala Asp Val His Leu Gly Asn Gly Pro Cys
 115 120 125
 Leu Phe Met Arg Lys Val Ser His Val Ile Leu His Ser Leu His Ile
 130 135 140
 His Gly Cys Asn Thr Ser Val Leu Gly Asp Val Leu Val Ser Glu Ser
 145 150 155 160
 Ile Gly Val Glu Pro Val His Ala Gln Asp Gly Asp Ala Ile Thr Met
 165 170 175
 Arg Asn Val Thr Asn Ala Trp Ile Asp His Asn Ser Leu Ser Asp Cys
 180 185 190
 Ser Asp Gly Leu Ile Asp Val Thr Leu Gly Ser Thr Gly Ile Thr Ile
 195 200 205
 Ser Asn Asn His Phe Phe Asn His His Lys Val Met Leu Leu Gly His
 210 215 220
 Asp Asp Thr Tyr Asp Asp Asp Lys Ser Met Lys Val Thr Val Ala Phe
 225 230 235 240
 Asn Gln Phe Gly Pro Asn Ala Gly Gln Arg Met Pro Arg Ala Arg Tyr
 245 250 255
 Gly Leu Val His Val Ala Asn Asn Tyr Asp Pro Trp Asn Ile Tyr
 260 265 270
 Ala Ile Gly Gly Ser Ser Asn Pro Thr Ile Leu Ser Glu Gly Asn Ser

275	280	285													
Phe	Thr	Ala	Pro	Ser	Glu	Ser	Tyr	Lys	Lys	Glu	Val	Thr	Lys	Arg	Ile
290					295					300					
Gly	Cys	Glu	Ser	Pro	Ser	Ala	Cys	Ala	Asn	Trp	Val	Trp	Arg	Ser	Thr
305					310					315					320
Arg	Asp	Ala	Phe	Ile	Asn	Gly	Ala	Tyr	Phe	Val	Ser	Ser	Gly	Lys	Thr
															325
Glu	Glu	Thr	Asn	Ile	Tyr	Asn	Ser	Asn	Glu	Ala	Phe	Lys	Val	Glu	Asn
															340
Gly	Asn	Ala	Ala	Pro	Gln	Leu	Thr	Lys	Asn	Ala	Gly	Val	Val	Thr	
															355
															360
															365

<210> 110

<211> 225

<212> PRT

<213> Juniperus ashei (Ozark white cedar)

<400> 110

Met	Ala	Arg	Val	Ser	Glu	Leu	Ala	Phe	Leu	Leu	Ala	Ala	Thr	Leu	Ala	
1					5				10					15		
Ile	Ser	Leu	His	Met	Gln	Glu	Ala	Gly	Val	Val	Lys	Phe	Asp	Ile	Lys	
					20				25					30		
Asn	Gln	Cys	Gly	Tyr	Thr	Val	Trp	Ala	Ala	Gly	Leu	Pro	Gly	Gly	Gly	
					35				40					45		
Lys	Arg	Leu	Asp	Gln	Gly	Gln	Thr	Trp	Thr	Val	Asn	Leu	Ala	Ala	Gly	
					50				55					60		
Thr	Ala	Ser	Ala	Arg	Phe	Trp	Gly	Arg	Thr	Gly	Cys	Thr	Phe	Asp	Ala	
65					70				75					80		
Ser	Gly	Lys	Gly	Ser	Cys	Gln	Thr	Gly	Asp	Cys	Gly	Gly	Gln	Leu	Ser	
					85				90					95		
Cys	Thr	Val	Ser	Gly	Ala	Val	Pro	Ala	Thr	Leu	Ala	Glu	Tyr	Thr	Gln	
					100				105					110		
Ser	Asp	Gln	Asp	Tyr	Tyr	Asp	Val	Ser	Leu	Val	Asp	Gly	Phe	Asn	Ile	
					115				120					125		
Pro	Leu	Ala	Ile	Asn	Pro	Thr	Asn	Ala	Gln	Cys	Thr	Ala	Pro	Ala	Cys	
					130				135					140		
Lys	Ala	Asp	Ile	Asn	Ala	Val	Cys	Pro	Ser	Glu	Leu	Lys	Val	Asp	Gly	
145					150					155					160	
Gly	Cys	Asn	Ser	Ala	Cys	Asn	Val	Phe	Lys	Thr	Asp	Gln	Tyr	Cys	Cys	
					165				170					175		
Arg	Asn	Ala	Tyr	Val	Asp	Asn	Cys	Pro	Ala	Thr	Asn	Tyr	Ser	Lys	Ile	
					180				185					190		
Phe	Lys	Asn	Gln	Cys	Pro	Gln	Ala	Tyr	Ser	Tyr	Ala	Lys	Asp	Asp	Thr	
					195				200					205		
Ala	Thr	Phe	Ala	Cys	Ala	Ser	Gly	Thr	Asp	Tyr	Ser	Ile	Val	Phe	Cys	
					210				215					220		
Pro																
225																

<210> 111

<211> 141

<212> PRT

<213> Lepidoglyphus destructor (Storage mite)

<400> 111

Met	Met	Lys	Phe	Ile	Ala	Leu	Phe	Ala	Leu	Val	Ala	Val	Ala	Ser	Ala
1					5				10					15	
Gly	Lys	Met	Thr	Phe	Lys	Asp	Cys	Gly	His	Gly	Glu	Val	Thr	Glu	Leu
					20				25					30	

Asp	Ile	Thr	Gly	Cys	Ser	Gly	Asp	Thr	Cys	Val	Ile	His	Arg	Gly	Glu
35							40					45			
Lys	Met	Thr	Leu	Glu	Ala	Lys	Phe	Ala	Ala	Asn	Gln	Asp	Thr	Ala	Lys
50						55				60					
Val	Thr	Ile	Lys	Val	Leu	Ala	Lys	Val	Ala	Gly	Thr	Thr	Ile	Gln	Val
65						70				75			80		
Pro	Gly	Leu	Glu	Thr	Asp	Gly	Cys	Lys	Phe	Ile	Lys	Cys	Pro	Val	Lys
						85			90			95			
Lys	Gly	Glu	Ala	Leu	Asp	Phe	Ile	Tyr	Ser	Gly	Thr	Ile	Pro	Ala	Ile
						100			105			110			
Thr	Pro	Lys	Val	Lys	Ala	Asp	Val	Thr	Ala	Glu	Leu	Ile	Gly	Asp	His
						115			120			125			
Gly	Val	Met	Ala	Cys	Gly	Thr	Val	His	Gly	Gln	Val	Glu			
						130			135			140			

<210> 112
 <211> 263
 <212> PRT
 <213> *Lolium perenne* (Perennial ryegrass)

<400>	112														
Met	Ala	Ser	Ser	Ser	Ser	Val	Leu	Leu	Val	Val	Ala	Leu	Phe	Ala	Val
1						5			10			15			
Phe	Leu	Gly	Ser	Ala	His	Gly	Ile	Ala	Lys	Val	Pro	Pro	Gly	Pro	Asn
						20			25			30			
Ile	Thr	Ala	Glu	Tyr	Gly	Asp	Lys	Trp	Leu	Asp	Ala	Lys	Ser	Thr	Trp
						35			40			45			
Tyr	Gly	Lys	Pro	Thr	Gly	Ala	Gly	Pro	Lys	Asp	Asn	Gly	Gly	Ala	Cys
						50			55			60			
Gly	Tyr	Lys	Asn	Val	Asp	Lys	Ala	Pro	Phe	Asn	Gly	Met	Thr	Gly	Cys
						65			70			75			80
Gly	Asn	Thr	Pro	Ile	Phe	Lys	Asp	Gly	Arg	Gly	Cys	Gly	Ser	Cys	Phe
						85			90			95			
Glu	Ile	Lys	Cys	Thr	Lys	Pro	Glu	Ser	Cys	Ser	Gly	Glu	Ala	Val	Thr
						100			105			110			
Val	Thr	Ile	Thr	Asp	Asp	Asn	Glu	Glu	Pro	Ile	Ala	Pro	Tyr	His	Phe
						115			120			125			
Asp	Leu	Ser	Gly	His	Ala	Phe	Gly	Ser	Met	Ala	Lys	Lys	Gly	Glu	Glu
						130			135			140			
Gln	Asn	Val	Arg	Ser	Ala	Gly	Glu	Leu	Glu	Leu	Gln	Phe	Arg	Arg	Val
						145			150			155			160
Lys	Cys	Lys	Tyr	Pro	Asp	Asp	Thr	Lys	Pro	Thr	Phe	His	Val	Glu	Lys
						165			170			175			
Ala	Ser	Asn	Pro	Asn	Tyr	Leu	Ala	Ile	Leu	Val	Lys	Tyr	Val	Asp	Gly
						180			185			190			
Asp	Gly	Asp	Val	Val	Ala	Val	Asp	Ile	Lys	Glu	Lys	Gly	Lys	Asp	Lys
						195			200			205			
Trp	Ile	Glu	Leu	Lys	Glu	Ser	Trp	Gly	Ala	Val	Trp	Arg	Ile	Asp	Thr
						210			215			220			
Pro	Asp	Lys	Leu	Thr	Gly	Pro	Phe	Thr	Val	Arg	Tyr	Thr	Thr	Glu	Gly
						225			230			235			240
Gly	Thr	Lys	Ser	Glu	Phe	Glu	Asp	Val	Ile	Pro	Glu	Gly	Trp	Lys	Ala
						245			250			255			
Asp	Thr	Ser	Tyr	Ser	Ala	Lys									
						260									

<210> 113
 <211> 97
 <212> PRT

<213> Lolium perenne (Perennial ryegrass)

<400> 113

Ala	Ala	Pro	Val	Glu	Phe	Thr	Val	Glu	Lys	Gly	Ser	Asp	Glu	Lys	Asn
1				5				10					15		
Leu	Ala	Leu	Ser	Ile	Lys	Tyr	Asn	Lys	Glu	Gly	Asp	Ser	Met	Ala	Glu
				20				25					30		
Val	Glu	Leu	Lys	Glu	His	Gly	Ser	Asn	Glu	Trp	Leu	Ala	Leu	Lys	Lys
				35				40					45		
Asn	Gly	Asp	Gly	Val	Trp	Glu	Ile	Lys	Ser	Asp	Lys	Pro	Leu	Lys	Gly
				50				55				60			
Pro	Phe	Asn	Phe	Arg	Phe	Val	Ser	Glu	Lys	Gly	Met	Arg	Asn	Val	Phe
				65				70			75		80		
Asp	Asp	Val	Val	Pro	Ala	Asp	Phe	Lys	Val	Gly	Thr	Thr	Tyr	Lys	Pro
				85				90					95		
Glu															

<210> 114

<211> 97

<212> PRT

<213> Lolium perenne (Perennial ryegrass)

<400> 114

Thr	Lys	Val	Asp	Leu	Thr	Val	Glu	Lys	Gly	Ser	Asp	Ala	Lys	Thr	Leu
1				5				10					15		
Val	Leu	Asn	Ile	Lys	Tyr	Thr	Arg	Pro	Gly	Asp	Thr	Leu	Ala	Glu	Val
				20				25					30		
Glu	Leu	Arg	Gln	His	Gly	Ser	Glu	Glu	Trp	Glu	Pro	Met	Thr	Lys	Lys
				35				40				45			
Gly	Asn	Leu	Trp	Glu	Val	Lys	Ser	Ala	Lys	Pro	Leu	Thr	Gly	Pro	Met
				50				55			60				
Asn	Phe	Arg	Phe	Leu	Ser	Lys	Gly	Gly	Met	Lys	Asn	Val	Phe	Asp	Glu
				65				70			75		80		
Val	Ile	Pro	Thr	Ala	Phe	Thr	Val	Gly	Lys	Thr	Tyr	Thr	Pro	Glu	Tyr
				85				90					95		
Asn															

<210> 115

<211> 308

<212> PRT

<213> Lolium perenne (Perennial ryegrass)

<400> 115

Met	Ala	Val	Gln	Lys	Tyr	Thr	Val	Ala	Leu	Phe	Leu	Arg	Arg	Gly	Pro
1				5					10				15		
Arg	Gly	Gly	Pro	Gly	Arg	Ser	Tyr	Ala	Ala	Asp	Ala	Gly	Tyr	Thr	Pro
				20				25				30			
Ala	Ala	Ala	Ala	Thr	Pro	Ala	Thr	Pro	Ala	Ala	Thr	Pro	Ala	Gly	Gly
				35				40				45			
Trp	Arg	Glu	Gly	Asp	Asp	Arg	Arg	Ala	Glu	Ala	Ala	Gly	Gly	Arg	Gln
				50				55			60				
Arg	Leu	Ala	Ser	Arg	Gln	Pro	Trp	Pro	Pro	Leu	Pro	Thr	Pro	Leu	Arg
				65				70			75		80		
Arg	Thr	Ser	Ser	Arg	Ser	Ser	Arg	Pro	Pro	Ser	Pro	Ser	Pro	Pro	Arg
				85				90				95			
Ala	Ser	Ser	Pro	Thr	Ser	Ala	Ala	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Lys
				100				105				110			

Leu Asp Thr Ala Tyr Asp Val Ala Tyr Lys Ala Ala Glu Ala His Pro
 115 120 125
 Arg Gly Gln Val Arg Arg Leu Arg His Cys Pro His Arg Ser Leu Arg
 130 135 140
 Val Ile Ala Gly Ala Leu Glu Val His Ala Val Lys Pro Ala Thr Glu
 145 150 155 160
 Glu Val Leu Ala Ala Lys Ile Pro Thr Gly Glu Leu Gln Ile Val Asp
 165 170 175
 Lys Ile Asp Ala Ala Phe Lys Ile Ala Ala Thr Ala Ala Asn Ala Ala
 180 185 190
 Pro Thr Asn Asp Lys Phe Thr Val Phe Glu Ser Ala Phe Asn Lys Ala
 195 200 205
 Leu Asn Glu Cys Thr Gly Gly Ala Met Arg Pro Thr Ser Ser Ser Pro
 210 215 220
 Pro Ser Arg Pro Arg Ser Ser Arg Pro Thr Pro Pro Pro Ser Pro Ala
 225 230 235 240
 Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala
 245 250 255
 Ile Thr Ala Met Thr Gln Ala Gln Lys Ala Gly Lys Pro Ala Ala Ala
 260 265 270
 Ala Ala Thr Ala Ala Ala Thr Val Ala Thr Ala Ala Ala Thr Ala Ala
 275 280 285
 Ala Val Leu Pro Pro Pro Leu Leu Val Val Gln Ser Leu Ile Ser Leu
 290 295 300
 Leu Ile Tyr Tyr
 305

<210> 116
 <211> 339
 <212> PRT
 <213> *Lolium perenne* (Perennial ryegrass)

<400> 116
 Met Ala Val Gln Lys His Thr Val Ala Leu Phe Leu Ala Val Ala Leu
 1 5 10 15
 Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Tyr Ala Pro
 20 25 30
 Ala Thr Pro Ala Thr Pro Ala Ala Pro Ala Thr Ala Ala Thr Pro Ala
 35 40 45
 Thr Pro Ala Thr Pro Ala Thr Pro Ala Ala Val Pro Ser Gly Lys Ala
 50 55 60
 Thr Thr Glu Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys
 65 70 75 80
 Ala Ala Val Ala Ala Ala Val Val Pro Pro Ala Asp Lys Tyr Lys
 85 90 95
 Thr Phe Val Glu Thr Phe Gly Thr Ala Thr Asn Lys Ala Phe Val Glu
 100 105 110
 Gly Leu Ala Ser Gly Tyr Ala Asp Gln Ser Lys Asn Gln Leu Thr Ser
 115 120 125
 Lys Leu Asp Ala Ala Leu Lys Leu Ala Tyr Glu Ala Ala Gln Gly Ala
 130 135 140
 Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Thr Glu Ala
 145 150 155 160
 Leu Arg Val Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala
 165 170 175
 Ala Glu Glu Val Lys Val Gly Ala Ile Pro Ala Ala Glu Val Gln Leu
 180 185 190
 Ile Asp Lys Val Asp Ala Ala Tyr Arg Thr Ala Ala Thr Ala Ala Asn
 195 200 205
 Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Asn Thr Phe Asn

210	215	220	
Asn Ala Ile Lys Val Ser	Leu Gly Ala Ala	Tyr Asp Ser Tyr Lys Phe	
225	230	235	240
Ile Pro Thr Leu Val Ala Ala Val Lys	Gln Ala Tyr Ala Ala	Lys Gln	
245	250	255	
Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Ser	Glu Thr Ala Leu Lys		
260	265	270	
Lys Ala Val Thr Ala Met Ser	Glu Ala Glu Lys Glu Ala	Thr Pro Ala	
275	280	285	
Ala Ala Ala Thr Ala Thr Pro Thr Pro Ala Ala	Ala Ala Thr Ala Thr Ala		
290	295	300	
Thr Pro Ala Ala Ala Tyr Ala Thr Ala Thr	Pro Ala Ala Ala Thr Ala		
305	310	315	320
Thr Ala Thr Pro Ala Ala Ala Thr Ala Thr	Pro Ala Ala Ala Gly Gly		
325	330	335	
Tyr Lys Val			

<210> 117

<211> 158

<212> PRT

<213> Malus domestica (Apple) (Malus sylvestris)

<400> 117

Gly Val Tyr Thr Phe Glu Asn Glu Phe	Thr Ser Glu Ile Pro Pro Ser		
1	5	10	15
Arg Leu Phe Lys Ala Phe Val Leu Asp	Ala Asp Asn Leu Ile Pro Lys		
20	25	30	
Ile Ala Pro Gln Ala Ile Lys Gln	Ala Glu Ile Leu Glu Gly Asn Gly		
35	40	45	
Gly Pro Gly Thr Ile Lys Lys	Ile Thr Phe Gly Glu Gly Ser Gln Tyr		
50	55	60	
Gly Tyr Val Lys His Arg Ile Asp Ser	Ile Asp Glu Ala Ser Tyr Ser		
65	70	75	80
Tyr Ser Tyr Thr Leu Ile Glu Gly Asp	Ala Leu Thr Asp Thr Ile Glu		
85	90	95	
Lys Ile Ser Tyr Glu Thr Lys Leu Val	Ala Cys Gly Ser Gly Ser Thr		
100	105	110	
Ile Lys Ser Ile Ser His Tyr His	Thr Lys Gly Asn Ile Glu Ile Lys		
115	120	125	
Glu Glu His Val Lys Val Gly Lys Glu	Lys Ala His Gly Leu Phe Lys		
130	135	140	
Leu Ile Glu Ser Tyr Leu Lys Asp His	Pro Asp Ala Tyr Asn		
145	150	155	

<210> 118

<211> 133

<212> PRT

<213> Mercurialis annua (Annual mercury)

<400> 118

Met Ser Trp Gln Thr Tyr Val Asp Asp His	Leu Met Cys Asp Ile Asp		
1	5	10	15
Gly Gln Gly Gln His Leu Ala Ala	Ala Ser Ile Val Gly His Asp Gly		
20	25	30	
Ser Ile Trp Ala Gln Ser Ala Ser	Phe Pro Gln Leu Lys Pro Glu Glu		
35	40	45	
Ile Thr Gly Ile Met Lys Asp Phe Asp	Glu Pro Gly His Leu Ala Pro		
50	55	60	

Thr Gly Leu Tyr Ile Ala Gly Thr Lys Tyr Met Val Ile Gln Gly Glu
65 70 75 80
Ser Gly Ala Val Ile Arg Gly Lys Lys Gly Ser Gly Gly Ile Thr Ile
85 90 95
Lys Lys Thr Gly Gln Ala Leu Val Phe Gly Ile Tyr Glu Glu Pro Val
100 105 110
Thr Pro Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu
115 120 125
Ile Glu Gln Gly Met
130

B1
Contd!

<210> 119

<211> 274

<212> PRT

<213> Metapenaeus ensis (Greasyback shrimp) (Sand shrim

<400> 119

Met Lys Leu Glu Lys Asp Asn Ala Met Asp Arg Ala Asp Thr Leu Glu
1 5 10 15
Gln Gln Asn Lys Glu Ala Asn Asn Arg Ala Glu Lys Ser Glu Glu Glu
20 25 30
Val His Asn Leu Gln Lys Arg Met Gln Gln Leu Glu Asn Asp Leu Asp
35 40 45
Gln Val Gln Glu Ser Leu Leu Lys Ala Asn Asn Gln Leu Val Glu Lys
50 55 60
Asp Lys Ala Leu Ser Asn Ala Glu Gly Glu Val Ala Ala Leu Asn Arg
65 70 75 80
Arg Ile Gln Leu Leu Glu Glu Asp Leu Glu Arg Ser Glu Glu Arg Leu
85 90 95
Asn Thr Ala Thr Thr Lys Leu Ala Glu Ala Ser Gln Ala Ala Asp Glu
100 105 110
Ser Glu Arg Met Arg Lys Val Leu Glu Asn Arg Ser Leu Ser Asp Glu
115 120 125
Glu Arg Met Asp Ala Leu Glu Asn Gln Leu Lys Glu Ala Arg Phe Leu
130 135 140
Ala Glu Glu Ala Asp Arg Lys Tyr Asp Glu Val Ala Arg Lys Leu Ala
145 150 155 160
Met Val Glu Ala Asp Leu Glu Arg Ala Glu Glu Arg Ala Glu Thr Gly
165 170 175
Glu Ser Lys Ile Val Glu Leu Glu Glu Leu Arg Val Val Gly Asn
180 185 190
Asn Leu Lys Ser Leu Glu Val Ser Glu Glu Lys Ala Asn Gln Arg Glu
195 200 205
Glu Ala Tyr Lys Glu Gln Ile Lys Thr Leu Thr Asn Lys Leu Lys Ala
210 215 220
Ala Glu Ala Arg Ala Glu Phe Ala Glu Arg Ser Val Gln Lys Leu Gln
225 230 235 240
Lys Glu Val Asp Arg Leu Glu Asp Glu Leu Val Asn Glu Lys Glu Lys
245 250 255
Tyr Lys Ser Ile Thr Asp Glu Leu Asp Gln Thr Phe Ser Glu Leu Ser
260 265 270
Gly Tyr

<210> 120

<211> 180

<212> PRT

<213> Mus musculus (Mouse)

<400> 120
Met Lys Met Leu Leu Leu Cys Leu Gly Leu Thr Leu Val Cys Val
1 5 10 15
His Ala Glu Glu Ala Ser Ser Thr Gly Arg Asn Phe Asn Val Glu Lys
20 25 30
Ile Asn Gly Glu Trp His Thr Ile Ile Leu Ala Ser Asp Lys Arg Glu
35 40 45
Lys Ile Glu Asp Asn Gly Asn Phe Arg Leu Phe Leu Glu Gln Ile His
50 55 60
Val Leu Glu Asn Ser Leu Val Leu Lys Phe His Thr Val Arg Asp Glu
65 70 75 80
Glu Cys Ser Glu Leu Ser Met Val Ala Asp Lys Thr Glu Lys Ala Gly
85 90 95
Glu Tyr Ser Val Thr Tyr Asp Gly Phe Asn Thr Phe Thr Ile Pro Lys
100 105 110
Thr Asp Tyr Asp Asn Phe Leu Met Ala His Leu Ile Asn Glu Lys Asp
115 120 125
Gly Glu Thr Phe Gln Leu Met Gly Leu Tyr Gly Arg Glu Pro Asp Leu
130 135 140
Met Ser Asp Ile Lys Glu Arg Phe Ala Gln Leu Cys Glu Glu His Gly
145 150 155 160
Ile Leu Arg Glu Asn Ile Ile Asp Leu Ser Asn Ala Asn Arg Cys Leu
165 170 175
Gln Ala Arg Glu
180

<210> 121
<211> 112
<212> PRT
<213> *Myrmecia pilosula* (Bulldog ant) (Australian jumpe

<400> 121
Met Lys Leu Ser Cys Leu Leu Leu Thr Leu Thr Ile Ile Phe Val Leu
1 5 10 15
Thr Ile Val His Ala Pro Asn Val Glu Ala Lys Asp Leu Ala Asp Pro
20 25 30
Glu Ser Glu Ala Val Gly Phe Ala Asp Ala Phe Gly Glu Ala Asp Ala
35 40 45
Val Gly Glu Ala Asp Pro Asn Ala Gly Leu Gly Ser Val Phe Gly Arg
50 55 60
Leu Ala Arg Ile Leu Gly Arg Val Ile Pro Lys Val Ala Lys Lys Leu
65 70 75 80
Gly Pro Lys Val Ala Lys Val Leu Pro Lys Val Met Lys Glu Ala Ile
85 90 95
Pro Met Ala Val Glu Met Ala Lys Ser Gln Glu Glu Gln Gln Pro Gln
100 105 110

<210> 122
<211> 75
<212> PRT
<213> *Myrmecia pilosula* (Bulldog ant) (Australian jumpe

<400> 122
Met Lys Leu Ser Cys Leu Leu Leu Thr Leu Ala Ile Ile Phe Val Leu
1 5 10 15
Thr Ile Val His Ala Pro Asn Val Glu Ala Lys Ala Leu Ala Asp Pro
20 25 30
Glu Ser Asp Ala Val Gly Phe Ala Asp Ala Val Gly Glu Ala Asp Pro
35 40 45

Ile Asp Trp Lys Lys Val Asp Trp Lys Lys Val Ser Lys Lys Thr Cys
50 55 60
Lys Val Met Leu Lys Ala Cys Lys Phe Leu Gly
65 70 75

<210> 123
<211> 145
<212> PRT
<213> Olea europaea (Common olive)

<400> 123
Glu Asp Ile Pro Gln Pro Pro Val Ser Gln Phe His Ile Gln Gly Gln
1 5 10 15
Val Tyr Cys Asp Thr Cys Arg Ala Gly Phe Ile Thr Glu Leu Ser Glu
20 25 30
Phe Ile Pro Gly Ala Ser Leu Arg Leu Gln Cys Lys Asp Lys Glu Asn
35 40 45
Gly Asp Val Thr Phe Thr Glu Val Gly Tyr Thr Arg Ala Glu Gly Leu
50 55 60
Tyr Ser Met Leu Val Glu Arg Asp His Lys Asn Glu Phe Cys Glu Ile
65 70 75 80
Thr Leu Ile Ser Ser Gly Arg Lys Asp Cys Asn Glu Ile Pro Thr Glu
85 90 95
Gly Trp Ala Lys Pro Ser Leu Lys Phe Lys Leu Asn Thr Val Asn Gly
100 105 110
Thr Thr Arg Thr Val Asn Pro Leu Gly Phe Phe Lys Lys Glu Ala Leu
115 120 125
Pro Lys Cys Ala Gln Val Tyr Asn Lys Leu Gly Met Tyr Pro Pro Asn
130 135 140
Met
145

<210> 124
<211> 24
<212> PRT
<213> Olea europaea (Common olive)

<400> 124
Ala Phe Ala Asn Thr Gly Val Glu Ile Val Ser Ile Asp Thr Tyr Leu
1 5 10 15
Phe Ser Leu Tyr Asp Glu Asp Lys
20

<210> 125
<211> 29
<212> PRT
<213> Olea europaea (Common olive)

<400> 125
Val Lys Ala Val Thr Val Leu Asn Ser Ser Glu Gly Pro His Gly Ile
1 5 10 15
Val Tyr Phe Ala Gln Glu Gly Asp Gly Pro Thr Thr Val
20 25

<210> 126
<211> 19
<212> PRT

<213> Olea europaea (Common olive)

<220>

<221> UNSURE

<222> 14, 16

<223> Xaa = any amino acid

<400> 126

Ala Pro Ser Gln Gly Thr Val Thr Ala Lys Leu Thr Ser Xaa Val Xaa
1 5 10 15
Tyr Lys Asp

<210> 127

<211> 263

<212> PRT

<213> Oryza sativa (Rice)

<400> 127

Met Ala Ser Ser Ser Leu Leu Leu Ala Cys Val Val Val Ala Ala Met
1 5 10 15
Val Ser Pro Ser Pro Ala Gly His Pro Lys Val Pro Pro Gly Pro Asn
20 25 30
Ile Thr Thr Ser Tyr Gly Asp Lys Trp Leu Glu Ala Arg Pro Pro Gly
35 40 45
Met Val Arg Pro Arg Val Leu Ala Pro Lys Asp Asn Gly Gly Ala Cys
50 55 60
Gly Tyr Lys Asp Val Asp Lys Ala Pro Phe Leu Gly Met Asn Ser Cys
65 70 75 80
Gly Asn Asp Pro Ile Phe Lys Asp Gly Lys Gly Cys Gly Ser Cys Phe
85 90 95
Glu Ile Lys Cys Ser Lys Pro Glu Ala Cys Ser Asp Lys Pro Ala Leu
100 105 110
Ile His Val Thr Asp Met Asn Asp Glu Pro Ile Ala Ala Tyr His Phe
115 120 125
Asp Leu Ser Gly Leu Ala Met Ala Lys Asp Gly Lys Asp Glu Glu Leu
130 135 140
Arg Lys Ala Gly Ile Ile Asp Thr Gln Phe Arg Arg Val Lys Cys Lys
145 150 155 160
Tyr Pro Ala Asp Thr Lys Ile Thr Phe His Ile Glu Lys Ala Ser Asn
165 170 175
Pro Asn Tyr Leu Ala Leu Leu Val Lys Tyr Val Ala Gly Asp Gly Asp
180 185 190
Val Val Glu Val Glu Ile Lys Glu Lys Gly Ser Glu Glu Trp Lys Ala
195 200 205
Leu Lys Glu Ser Trp Gly Ala Ile Trp Arg Ile Asp Thr Pro Lys Pro
210 215 220
Leu Lys Gly Pro Phe Ser Val Arg Val Thr Thr Glu Gly Ala Arg Arg
225 230 235 240
Ser Ser Ala Glu Asp Ala Ile Pro Asp Pro Gly Arg Arg Gln Arg Val
245 250 255
Gln Val Asn Val Gln Ala Lys
260

<210> 128

<211> 139

<212> PRT

<213> Parietaria judaica

<400> 128
Gln Glu Thr Cys Gly Thr Met Val Arg Ala Leu Met Pro Cys Leu Pro
1 5 10 15
Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys Gly Cys Cys Ser Gly
20 25 30
Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly Pro Gln Arg Val His
35 40 45
Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr Tyr Ser Asp Ile Asp
50 55 60
Gly Lys Leu Val Ser Glu Val Pro Lys His Cys Gly Ile Val Asp Ser
65 70 75 80
Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys Lys Thr Val Gly Val
85 90 95
Val Pro Arg Gln Pro Gln Leu Pro Val Ser Leu Arg His Gly Pro Val
100 105 110
Thr Gly Pro Ser Asp Pro Ala His Lys Ala Arg Leu Glu Arg Pro Gln
115 120 125
Ile Arg Val Pro Pro Ala Pro Glu Lys Ala
130 135

<210> 129

<211> 176

<212> PRT

<213> Parietaria judaica

<400> 129
Met Arg Thr Val Ser Ala Pro Ser Ala Val Ala Leu Val Val Ile Val
1 5 10 15
Ala Ala Gly Leu Ala Trp Thr Ser Leu Ala Ser Val Ala Pro Pro Ala
20 25 30
Pro Ala Pro Gly Ser Glu Glu Thr Cys Gly Thr Val Val Arg Ala Leu
35 40 45
Met Pro Cys Leu Pro Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys
50 55 60
Gly Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly
65 70 75 80
Leu Gln Arg Val His Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr
85 90 95
Tyr Ser Asp Ile Asp Gly Lys Leu Val Ser Glu Val Pro Lys His Cys
100 105 110
Gly Ile Val Asp Ser Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys
115 120 125
Lys Thr Leu Gly Val Val Pro Arg Gln Pro Gln Leu Pro Val Ser Leu
130 135 140
Arg His Gly Pro Val Thr Gly Pro Ser Asp Pro Ala His Lys Ala Arg
145 150 155 160
Leu Glu Arg Pro Gln Ile Arg Val Pro Pro Pro Ala Pro Glu Lys Ala
165 170 175

<210> 130

<211> 138

<212> PRT

<213> Parietaria judaica

<400> 130

Met Arg Thr Val Ser Ala Arg Ser Ser Val Ala Leu Val Val Ile Val
1 5 10 15
Ala Ala Val Leu Val Trp Thr Ser Ser Ala Ser Val Ala Pro Ala Pro
20 25 30

Ala Pro Gly Ser Glu Glu Thr Cys Gly Thr Val Val Gly Ala Leu Met
35 40 45
Pro Cys Leu Pro Phe Val Gln Gly Lys Glu Lys Glu Pro Ser Lys Gly
50 55 60
Cys Cys Ser Gly Ala Lys Arg Leu Asp Gly Glu Thr Lys Thr Gly Pro
65 70 75 80
Gln Arg Val His Ala Cys Glu Cys Ile Gln Thr Ala Met Lys Thr Tyr
85 90 95
Ser Asp Ile Asp Gly Lys Leu Val Ser Glu Val Pro Lys His Cys Gly
100 105 110
Ile Val Asp Ser Lys Leu Pro Pro Ile Asp Val Asn Met Asp Cys Lys
115 120 125
Thr Leu Gly Val Leu His Tyr Lys Gly Asn
130 135

<210> 131
<211> 133
<212> PRT
<213> Parietaria judaica

<400> 131
Met Arg Thr Val Ser Met Ala Ala Leu Val Val Ile Ala Ala Ala Leu
1 5 10 15
Ala Trp Thr Ser Ser Ala Glu Pro Ala Pro Ala Pro Gly Glu
20 25 30
Glu Ala Cys Gly Lys Val Val Gln Asp Ile Met Pro Cys Leu His Phe
35 40 45
Val Lys Gly Glu Glu Lys Glu Pro Ser Lys Glu Cys Cys Ser Gly Thr
50 55 60
Lys Lys Leu Ser Glu Glu Val Lys Thr Thr Glu Gln Lys Arg Glu Ala
65 70 75 80
Cys Lys Cys Ile Val Arg Ala Thr Lys Gly Ile Ser Gly Ile Lys Asn
85 90 95
Glu Leu Val Ala Glu Val Pro Lys Lys Cys Asp Ile Lys Thr Thr Leu
100 105 110
Pro Pro Ile Thr Ala Asp Phe Asp Cys Ser Lys Ile Gln Ser Thr Ile
115 120 125
Phe Arg Gly Tyr Tyr
130

<210> 132
<211> 133
<212> PRT
<213> Parietaria judaica

<400> 132
Met Arg Thr Val Ser Met Ala Ala Leu Val Val Ile Ala Ala Ala Leu
1 5 10 15
Ala Trp Thr Ser Ser Ala Glu Leu Ala Ser Ala Pro Ala Pro Gly Glu
20 25 30
Gly Pro Cys Gly Lys Val Val His His Ile Met Pro Cys Leu Lys Phe
35 40 45
Val Lys Gly Glu Glu Lys Glu Pro Ser Lys Ser Cys Cys Ser Gly Thr
50 55 60
Lys Lys Leu Ser Glu Glu Val Lys Thr Thr Glu Gln Lys Arg Glu Ala
65 70 75 80
Cys Lys Cys Ile Val Ala Ala Thr Lys Gly Ile Ser Gly Ile Lys Asn
85 90 95
Glu Leu Val Ala Glu Val Pro Lys Lys Cys Gly Ile Thr Thr Leu

100 105 110
Pro Pro Ile Thr Ala Asp Phe Asp Cys Ser Lys Ile Glu Ser Thr Ile
115 120 125
Phe Arg Gly Tyr Tyr
130

<210> 133
<211> 269
<212> PRT
<213> Phalaris aquatica (Canary grass)

<400> 133
Met Met Lys Met Val Cys Ser Ser Ser Ser Ser Ser Leu Leu Val Val
1 5 10 15
Ala Ala Leu Leu Ala Val Phe Val Gly Ser Ala Gln Gly Ile Ala Lys
20 25 30
Val Pro Pro Gly Pro Asn Ile Thr Ala Glu Tyr Gly Asp Lys Trp Leu
35 40 45
Asp Ala Lys Ser Thr Trp Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys
50 55 60
Asp Asn Gly Gly Ala Cys Gly Tyr Lys Asp Val Asp Lys Ala Pro Phe
65 70 75 80
Asn Gly Met Thr Gly Cys Gly Asn Thr Pro Ile Phe Lys Asp Gly Arg
85 90 95
Gly Cys Gly Ser Cys Phe Glu Leu Lys Cys Ser Lys Pro Glu Ser Cys
100 105 110
Ser Gly Glu Pro Ile Thr Val His Ile Thr Asp Asp Asn Glu Glu Pro
115 120 125
Ile Ala Pro Tyr His Phe Asp Leu Ser Gly His Ala Phe Gly Ser Met
130 135 140
Ala Lys Lys Gly Glu Glu Asn Val Arg Gly Ala Gly Glu Leu Glu
145 150 155 160
Leu Gln Phe Arg Arg Val Lys Cys Lys Tyr Pro Asp Gly Thr Lys Pro
165 170 175
Thr Phe His Val Glu Lys Gly Ser Asn Pro Asn Tyr Leu Ala Leu Leu
180 185 190
Val Lys Tyr Val Asp Gly Asp Gly Asp Val Val Ala Val Asp Ile Lys
195 200 205
Glu Lys Gly Lys Asp Lys Trp Ile Glu Leu Lys Glu Ser Trp Gly Ala
210 215 220
Ile Trp Arg Ile Asp Thr Pro Asp Lys Leu Thr Gly Pro Phe Thr Val
225 230 235 240
Arg Tyr Thr Thr Glu Gly Gly Thr Lys Ala Glu Phe Glu Asp Val Ile
245 250 255
Pro Glu Gly Trp Lys Ala Asp Thr His Asp Ala Ser Lys
260 265

<210> 134
<211> 320
<212> PRT
<213> Phalaris aquatica (Canary grass)

<400> 134
Met Ala Val Gln Lys Tyr Thr Met Ala Leu Phe Leu Ala Val Ala Leu
1 5 10 15
Val Ala Gly Pro Ala Ala Pro Thr Pro Pro Thr Pro Arg Thr Pro Pro
20 25 30
Leu Leu Pro Pro Pro Arg Ala Arg Asp Lys Ala Thr Leu Thr Ser Arg
35 40 45

Ser Val Glu Asp Ile Asn Ala Ala Ser Arg Arg Pro Trp Trp Ala Ser
 50 55 60
 Val Pro Pro Ala Asp Lys Phe Lys Thr Phe Ala Asp His Val Leu Cys
 65 70 75 80
 Val Pro Asn Ala Asp Val Thr Ser Ala Ala Thr Lys Ala Pro Gln Leu
 85 90 95
 Lys Ala Lys Leu Asp Ala Ala Tyr Arg Val Ala Tyr Glu Ala Ala Glu
 100 105 110
 Gly Ser Thr Pro Glu Ala Lys Tyr Asp Ala Phe Ile Ala Ala Leu Thr
 115 120 125
 Glu Ala Leu Arg Val Ile Ala Gly Ala Phe Glu Val His Ala Val Lys
 130 135 140
 Pro Ala Thr Glu Glu Val Val Ala Asp Pro Val Gly Glu Leu Gln Ile
 145 150 155 160
 Val Asp Lys Ile Asp Ala Ala Phe Lys Ile Ala Ala Thr Ala Ala Asn
 165 170 175
 Ser Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Gly Ala Phe Asn
 180 185 190
 Lys Ala Ile Lys Glu Ser Thr Ala Gly Ala Tyr Glu Thr Tyr Lys Phe
 195 200 205
 Ile Pro Ser Leu Glu Ala Ala Val Lys Gln Ala Tyr Gly Ala Thr Val
 210 215 220
 Ala Arg Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Gly Leu Thr
 225 230 235 240
 Lys Ala Ile Thr Ala Met Ser Glu Ala Gln Lys Val Ala Lys Pro Pro
 245 250 255
 Leu Ser Pro Gln Pro Pro Gln Val Leu Pro Leu Ala Ala Gly Gly Ala
 260 265 270
 Ala Thr Val Ala Ala Ala Ser Asp Val Arg Val Cys Arg Ser His Gly
 275 280 285
 Thr Leu Gln Asp Ala Cys Leu Leu Arg Cys Arg Gly Gly Cys Gln Pro
 290 295 300
 Val Val Trp Arg Gly Gly Ser His Arg Ala Arg Gly Gly Tyr Lys Val
 305 310 315 320

<210> 135
 <211> 305
 <212> PRT
 <213> Phalaris aquatica (Canary grass)

<400> 135
 Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Val Ala Leu
 1 5 10 15
 Val Ala Gly Pro Ala Ala Leu Tyr Ala Gly Asp Gly Tyr Ala Pro Ala
 20 25 30
 Thr Pro Ala Ala Ser Ala Thr Leu Ala Thr Pro Ala Thr Pro Ala Ala
 35 40 45
 Ser Pro Gln His Ala Gly Thr Thr Glu Tyr His Ile Val Arg Lys Ala
 50 55 60
 Gly Leu Asn Glu Glu Lys Asn Ala Ala Arg Gln Thr Asp Asp Glu Gln
 65 70 75 80
 Lys Arg Ser Asp Glu Ile Asn Cys Pro Asp Phe Asn Lys Ser Val His
 85 90 95
 Cys Arg Ala Asp Arg Leu Pro Val Cys Ser Ser Thr Ser Ala His Ser
 100 105 110
 Ser Lys Gln Asp Val Ala Trp Met Leu Gly Tyr Gly Ser Ile Gln Gly
 115 120 125
 Phe Ser Met Asp Asp Ala Ser Val Gly Ser Val Ser Ser Glu Phe His
 130 135 140
 Val Ile Glu Ser Ala Ile Glu Val Ile Thr Tyr Ile Gly Glu Glu Val

145	150	155	160
Lys Val Ile Pro Ala Gly Glu Val Glu Val Ile Asn Lys Val Lys Ala			
165	170	175	
Ala Phe Ser Thr Ala Ala Thr Ala Ala Asp Glu Ala Pro Ala Asn Asp			
180	185	190	
Lys Phe Thr Val Phe Val Ser Ser Phe Asn Lys Ala Ile Lys Glu Thr			
195	200	205	
Thr Gly Gly Ala Tyr Ala Gly Tyr Lys Phe Ile Pro Thr Leu Glu Ala			
210	215	220	
Ala Val Lys Gln Ala Tyr Ala Ala Ser Ser Ala Thr Ala Pro Glu Val			
225	230	235	240
Lys Tyr Ala Val Phe Glu Thr Ala Leu Lys Lys Ala Ile Ser Ala Met			
245	250	255	
Ser Glu Ala Gln Lys Glu Ala Lys Pro Ala Ala Ala Ile Ser Ala Ala			
260	265	270	
Thr Thr Thr Ile Ser Ala Ser Thr Ala Thr Pro Ala Ala Pro Pro Pro			
275	280	285	
Pro Gln Leu Gly Thr Ala Thr Pro Ala Ala Val Ala Gly Gly Tyr Lys			
290	295	300	
Val			
305			

<210> 136
 <211> 294
 <212> PRT
 <213> Phalaris aquatica (Canary grass)

<400> 136			
Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Ala Met Ala Leu			
1	5	10	15
Val Ala Gly Pro Ala Ala Ser Tyr Ala Ala Asp Ala Gly Thr Pro Pro			
20	25	30	
Thr Pro Ala Thr Pro Ala Val Pro Gly Ala Ala Ala Gly Lys Ala Thr			
35	40	45	
Thr His Glu Gln Lys Leu Ile Glu Asp Ile Asn Ala Ala Phe Lys Trp			
50	55	60	
Trp Pro Ala Ser Ala Pro Pro Ala Asp Lys Tyr Lys Thr Phe Glu Thr			
65	70	75	80
Ala Phe Ser Lys Ala Asn Ile Ala Gly Ala Ser Thr Lys Gly Leu Asp			
85	90	95	
Ala Ala Tyr Ser Val Val Tyr Asn Thr Ala Ala Gly Ala Thr Pro Glu			
100	105	110	
Ala Lys Tyr Asp Ser Phe Val Thr Ala Leu Thr Glu Ala Leu Arg Ile			
115	120	125	
Met Ala Gly Thr Leu Glu Val His Ala Val Lys Pro Ala Thr Glu Glu			
130	135	140	
Glu Val Pro Ser Ala Lys Ile Leu Arg Ala Asn Ser Arg Ser Ser Thr			
145	150	155	160
Arg Ser Ser Arg Phe Lys Ile Ala Ala Thr Val Ala Thr Pro Leu Ser			
165	170	175	
His Ser Thr Ala Ala Asn Ser Ala Pro Ala Asn Asp Lys Phe Thr Val			
180	185	190	
Phe Glu Gly Ala Phe Asn Lys Ala Ile Lys Glu Arg His Gly Gly Pro			
195	200	205	
Thr Glu Thr Tyr Lys Phe Ile Pro Ser Leu Glu Ala Ala Val Lys Gln			
210	215	220	
Ala Tyr Gly Ala Thr Val Ala Arg Ala Pro Glu Val Lys Tyr Ala Val			
225	230	235	240
Phe Glu Ala Gly Leu Thr Lys Ala Ile Thr Ala Met Ser Glu Ala Gln			
245	250	255	

Lys Val Ala Lys Pro Val Arg Leu Ser Pro Gln Pro Pro Gln Val Leu
260 265 270
Pro Leu Ala Ala Gly Gly Ala Ala Thr Val Ala Ala Ala Ser Asp Ser
275 280 285
Arg Gly Gly Tyr Lys Val
290

<210> 137
<211> 175
<212> PRT
<213> Phalaris aquatica (Canary grass)

<400> 137
Ala Lys Tyr Asp Ala Phe Ile Ala Ala Leu Thr Glu Ala Leu Arg Val
1 5 10 15
Ile Ala Gly Ala Phe Glu Val His Ala Val Lys Pro Ala Thr Glu Glu
20 25 30
Val Pro Ala Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Val Asp Lys
35 40 45
Ile Asp Ala Ala Phe Lys Ile Ala Ala Thr Ala Ala Asn Ser Ala Pro
50 55 60
Ala Asn Asp Lys Phe Thr Val Phe Glu Gly Ala Phe Asn Lys Ala Ile
65 70 75 80
Lys Glu Arg His Gly Gly Ala Tyr Glu Thr Tyr Lys Phe Ile Pro Ser
85 90 95
Leu Glu Ala Ser Arg Ser Lys Gln Ala Tyr Gly Ala Thr Val Ala Arg
100 105 110
Ala Pro Glu Val Lys Tyr Ala Val Phe Glu Ala Gly Leu Thr Lys Ala
115 120 125
Ile Thr Ala Met Ser Glu Ala Gln Lys Val Ala Lys Pro Val Arg Ser
130 135 140
Val Thr Ala Ala Ala Ala Gly Ala Ala Thr Ala Ala Gly Gly Ala Ala
145 150 155 160
Thr Val Ala Ala Ser Arg Pro Thr Ser Ala Gly Gly Tyr Lys Val
165 170 175

<210> 138
<211> 263
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 138
Met Ala Ser Ser Ser Ser Val Leu Leu Val Val Val Leu Phe Ala Val
1 5 10 15
Phe Leu Gly Ser Ala Tyr Gly Ile Pro Lys Val Pro Pro Gly Pro Asn
20 25 30
Ile Thr Ala Thr Tyr Gly Asp Lys Trp Leu Asp Ala Lys Ser Thr Trp
35 40 45
Tyr Gly Lys Pro Thr Gly Ala Gly Pro Lys Asp Asn Gly Gly Ala Cys
50 55 60
Gly Tyr Lys Asp Val Asp Lys Pro Pro Phe Ser Gly Met Thr Gly Cys
65 70 75 80
Gly Asn Thr Pro Ile Phe Lys Ser Gly Arg Gly Cys Gly Ser Cys Phe
85 90 95
Glu Ile Lys Cys Thr Lys Pro Glu Ala Cys Ser Gly Glu Pro Val Val
100 105 110
Val His Ile Thr Asp Asp Asn Glu Glu Pro Ile Ala Pro Tyr His Phe
115 120 125
Asp Leu Ser Gly His Ala Phe Gly Ala Met Ala Lys Lys Gly Asp Glu

130	135	140													
Gln	Lys	Leu	Arg	Ser	Ala	Gly	Glu	Leu	Glu	Leu	Gln	Phe	Arg	Arg	Val
145					150				155						160
Lys	Cys	Lys	Tyr	Pro	Glu	Gly	Thr	Lys	Val	Thr	Phe	His	Val	Glu	Lys
									165					175	
Gly	Ser	Asn	Pro	Asn	Tyr	Leu	Ala	Leu	Leu	Val	Lys	Tyr	Val	Asn	Gly
									180			185		190	
Asp	Gly	Asp	Val	Val	Ala	Val	Asp	Ile	Lys	Glu	Lys	Gly	Lys	Asp	Lys
									195			200		205	
Trp	Ile	Glu	Leu	Lys	Glu	Ser	Trp	Gly	Ala	Ile	Trp	Arg	Ile	Asp	Thr
									210			215		220	
Pro	Asp	Lys	Leu	Thr	Gly	Pro	Phe	Thr	Val	Arg	Tyr	Thr	Thr	Glu	Gly
									225			230		235	
Gly	Thr	Lys	Thr	Glu	Ala	Glu	Asp	Val	Ile	Pro	Glu	Gly	Trp	Lys	Ala
									245			250		255	
Asp	Thr	Ser	Tyr	Glu	Ser	Lys									
									260						

<210> 139

<211> 122

<212> PRT

<213> Phleum pratense (Common timothy)

<400> 139

Met	Ser	Met	Ala	Ser	Ser	Ser	Ser	Ser	Ser	Leu	Leu	Ala	Met	Ala	Val
1										10					15
Leu	Ala	Ala	Leu	Phe	Ala	Gly	Ala	Trp	Cys	Val	Pro	Lys	Val	Thr	Phe
									20			25			30
Thr	Val	Glu	Lys	Gly	Ser	Asn	Glu	Lys	His	Leu	Ala	Val	Leu	Val	Lys
									35			40			45
Tyr	Glu	Gly	Asp	Thr	Met	Ala	Glu	Val	Glu	Leu	Arg	Glu	His	Gly	Ser
									50			55			60
Asp	Glu	Trp	Val	Ala	Met	Thr	Lys	Gly	Glu	Gly	Gly	Val	Trp	Thr	Phe
									65			70			80
Asp	Ser	Glu	Glu	Pro	Leu	Gln	Gly	Pro	Phe	Asn	Phe	Arg	Phe	Leu	Thr
									85			90			95
Glu	Lys	Gly	Met	Lys	Asn	Val	Phe	Asp	Asp	Val	Val	Pro	Glu	Lys	Tyr
									100			105			110
Thr	Ile	Gly	Ala	Thr	Tyr	Ala	Pro	Glu	Glu						
									115			120			

<210> 140

<211> 286

<212> PRT

<213> Phleum pratense (Common timothy)

<400> 140

Ala	Asp	Leu	Gly	Tyr	Gly	Pro	Ala	Thr	Pro	Ala	Ala	Pro	Ala	Ala	Gly
1												10			15
Tyr	Thr	Pro	Ala	Thr	Pro	Ala	Ala	Pro	Ala	Gly	Ala	Asp	Ala	Ala	Gly
												20			30
Lys	Ala	Thr	Thr	Glu	Glu	Gln	Lys	Leu	Ile	Glu	Lys	Ile	Asn	Ala	Gly
									35			40			45
Phe	Lys	Ala	Ala	Leu	Ala	Gly	Ala	Gly	Val	Gln	Pro	Ala	Asp	Lys	Tyr
									50			55			60
Arg	Thr	Phe	Val	Ala	Thr	Phe	Gly	Pro	Ala	Ser	Asn	Lys	Ala	Phe	Ala
									65			70			80
Glu	Gly	Leu	Ser	Gly	Glu	Pro	Lys	Gly	Ala	Ala	Glu	Ser	Ser	Ser	Lys
									85			90			95

Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys
 100 105 110
 Thr Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala
 115 120 125
 Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val His
 130 135 140
 Ala Val Lys Pro Ala Ala Glu Glu Val Lys Val Ile Pro Ala Gly Glu
 145 150 155 160
 Leu Gln Val Ile Glu Lys Val Asp Ala Ala Phe Lys Val Ala Ala Thr
 165 170 175
 Ala Ala Asn Ala Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Ala
 180 185 190
 Ala Phe Asn Asp Glu Ile Lys Ala Ser Thr Gly Gly Ala Tyr Glu Ser
 195 200 205
 Tyr Lys Phe Ile Pro Ala Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala
 210 215 220
 Ala Thr Val Ala Thr Ala Pro Glu Val Lys Tyr Thr Val Phe Glu Thr
 225 230 235 240
 Ala Leu Lys Lys Ala Ile Thr Ala Met Ser Glu Ala Gln Lys Ala Ala
 245 250 255
 Lys Pro Ala Ala Ala Ala Thr Ala Thr Ala Ala Val Gly Ala
 260 265 270
 Ala Thr Gly Ala Ala Thr Ala Ala Thr Gly Gly Tyr Lys Val
 275 280 285

<210> 141
 <211> 284
 <212> PRT
 <213> Phleum pratense (Common timothy)

<400> 141
 Ala Ala Ala Ala Val Pro Arg Arg Gly Pro Arg Gly Gly Pro Gly Arg
 1 5 10 15
 Ser Tyr Thr Ala Asp Ala Gly Tyr Ala Pro Ala Thr Pro Ala Ala Ala
 20 25 30
 Gly Ala Ala Ala Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu Ile Glu
 35 40 45
 Asp Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Ala Ser Val
 50 55 60
 Pro Ala Ala Asp Lys Phe Lys Thr Phe Glu Ala Ala Phe Thr Ser Ser
 65 70 75 80
 Ser Lys Ala Ala Ala Lys Ala Pro Gly Leu Val Pro Lys Leu Asp
 85 90 95
 Ala Ala Tyr Ser Val Ala Tyr Lys Ala Ala Val Gly Ala Thr Pro Glu
 100 105 110
 Ala Lys Phe Asp Ser Phe Val Ala Ser Leu Thr Glu Ala Leu Arg Val
 115 120 125
 Ile Ala Gly Ala Leu Glu Val His Ala Val Lys Pro Val Thr Glu Glu
 130 135 140
 Pro Gly Met Ala Lys Ile Pro Ala Gly Glu Leu Gln Ile Ile Asp Lys
 145 150 155 160
 Ile Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Thr Ala Pro
 165 170 175
 Ala Asp Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Lys Ala Ile
 180 185 190
 Lys Glu Ser Thr Gly Gly Ala Tyr Asp Thr Tyr Lys Cys Ile Pro Ser
 195 200 205
 Leu Glu Ala Ala Val Lys Gln Ala Tyr Ala Ala Thr Val Ala Ala Ala
 210 215 220
 Pro Gln Val Lys Tyr Ala Val Phe Glu Ala Ala Leu Thr Lys Ala Ile

225 230 235 240
Thr Ala Met Ser Glu Val Gln Lys Val Ser Gln Pro Ala Thr Gly Ala
245 250 255
Ala Thr Val Ala Ala Gly Ala Ala Thr Thr Ala Ala Gly Ala Ala Ser
260 265 270
Gly Ala Ala Thr Val Ala Ala Gly Gly Tyr Lys Val
275 280

<210> 142
<211> 132
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 142
Met Val Ala Met Phe Leu Ala Val Ala Val Val Leu Gly Leu Ala Thr
1 5 10 15
Ser Pro Thr Ala Glu Gly Gly Lys Ala Thr Thr Glu Glu Gln Lys Leu
20 25 30
Ile Glu Asp Val Asn Ala Ser Phe Arg Ala Ala Met Ala Thr Thr Ala
35 40 45
Asn Val Pro Pro Ala Asp Lys Tyr Lys Thr Phe Glu Ala Ala Phe Thr
50 55 60
Val Ser Ser Lys Arg Asn Leu Ala Asp Ala Val Ser Lys Ala Pro Gln
65 70 75 80
Leu Val Pro Lys Leu Asp Glu Val Tyr Asn Ala Ala Tyr Asn Ala Ala
85 90 95
Asp His Ala Ala Pro Glu Asp Lys Tyr Glu Ala Phe Val Leu His Phe
100 105 110
Ser Glu Ala Leu Arg Ile Ile Ala Gly Thr Pro Glu Val His Ala Val
115 120 125
Lys Pro Gly Ala
130

<210> 143
<211> 131
<212> PRT
<213> Phleum pratense (Common timothy)

<400> 143
Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu
1 5 10 15
Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val
20 25 30
Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr
35 40 45
Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly
50 55 60
Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly
65 70 75 80
Arg Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys
85 90 95
Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro
100 105 110
Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu
115 120 125
Gln Gly Met
130

<210> 144
 <211> 131
 <212> PRT
 <213> *Phleum pratense* (Common timothy)

<400> 144
 Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu
 1 5 10 15
 Gly His His Leu Ala Ser Ala Ala Ile Leu Gly His Asp Gly Thr Val
 20 25 30
 Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr
 35 40 45
 Gly Ile Met Lys Asp Phe Asp Glu Pro Gly His Leu Ala Pro Thr Gly
 50 55 60
 Met Phe Val Ala Gly Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly
 65 70 75 80
 Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys
 85 90 95
 Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro
 100 105 110
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu
 115 120 125
 Gln Gly Met
 130

<210> 145
 <211> 131
 <212> PRT
 <213> *Phleum pratense* (Common timothy)

<400> 145
 Met Ser Trp Gln Thr Tyr Val Asp Glu His Leu Met Cys Glu Ile Glu
 1 5 10 15
 Gly His His Leu Ala Ser Ala Ala Ile Phe Gly His Asp Gly Thr Val
 20 25 30
 Trp Ala Gln Ser Ala Asp Phe Pro Gln Phe Lys Pro Glu Glu Ile Thr
 35 40 45
 Gly Ile Met Lys Asp Leu Asp Glu Pro Gly His Leu Ala Pro Thr Gly
 50 55 60
 Met Phe Val Ala Ala Ala Lys Tyr Met Val Ile Gln Gly Glu Pro Gly
 65 70 75 80
 Ala Val Ile Arg Gly Lys Lys Gly Ala Gly Gly Ile Thr Ile Lys Lys
 85 90 95
 Thr Gly Gln Ala Leu Val Val Gly Ile Tyr Asp Glu Pro Met Thr Pro
 100 105 110
 Gly Gln Cys Asn Met Val Val Glu Arg Leu Gly Asp Tyr Leu Val Glu
 115 120 125
 Gln Gly Met
 130

<210> 146
 <211> 373
 <212> PRT
 <213> *Poa pratensis* (Kentucky bluegrass)

<400> 146
 Met Asp Lys Ala Asn Gly Ala Tyr Lys Thr Ala Leu Lys Ala Ala Ser
 1 5 10 15
 Ala Val Ala Pro Ala Glu Lys Phe Pro Val Phe Gln Ala Thr Phe Asp

	20	25	30												
Lys	Asn	Leu	Lys	Glu	Gly	Leu	Ser	Gly	Pro	Asp	Ala	Val	Gly	Phe	Ala
	35		40										45		
Lys	Lys	Leu	Asp	Ala	Phe	Ile	Gln	Thr	Ser	Tyr	Leu	Ser	Thr	Lys	Ala
	50				55						60				
Ala	Glu	Pro	Lys	Glu	Lys	Phe	Asp	Leu	Phe	Val	Leu	Ser	Leu	Thr	Glu
	65				70				75					80	
Val	Leu	Arg	Phe	Met	Ala	Gly	Ala	Val	Lys	Ala	Pro	Pro	Ala	Ser	Lys
				85				90					95		
Phe	Pro	Ala	Lys	Pro	Ala	Pro	Lys	Val	Ala	Ala	Tyr	Thr	Pro	Ala	Ala
				100				105					110		
Pro	Ala	Gly	Ala	Ala	Pro	Lys	Ala	Thr	Thr	Asp	Glu	Gln	Lys	Leu	Ile
				115				120				125			
Glu	Lys	Ile	Asn	Val	Gly	Phe	Lys	Ala	Ala	Val	Ala	Ala	Ala	Ala	Gly
				130			135				140				
Val	Pro	Ala	Ala	Ser	Lys	Tyr	Lys	Thr	Phe	Val	Ala	Thr	Phe	Gly	Ala
	145				150				155				160		
Ala	Ser	Asn	Lys	Ala	Phe	Ala	Glu	Ala	Leu	Ser	Thr	Glu	Pro	Lys	Gly
				165				170				175			
Ala	Ala	Val	Ala	Ser	Ser	Lys	Ala	Val	Leu	Thr	Ser	Lys	Leu	Asp	Ala
				180				185				190			
Ala	Tyr	Lys	Leu	Ala	Tyr	Lys	Ser	Ala	Glu	Gly	Ala	Thr	Pro	Glu	Ala
	195				200				205						
Lys	Tyr	Asp	Ala	Tyr	Val	Ala	Thr	Leu	Ser	Glu	Ala	Leu	Arg	Ile	Ile
	210				215				220						
Ala	Gly	Thr	Leu	Glu	Val	His	Gly	Val	Lys	Pro	Ala	Ala	Glu	Glu	Val
	225				230				235				240		
Lys	Ala	Ile	Pro	Ala	Gly	Glu	Leu	Gln	Val	Ile	Asp	Lys	Val	Asp	Ala
				245				250				255			
Ala	Phe	Lys	Val	Ala	Ala	Thr	Ala	Ala	Asn	Ala	Ala	Pro	Ala	Asn	Asp
				260				265				270			
Lys	Phe	Thr	Val	Phe	Glu	Ala	Ala	Phe	Asn	Asp	Ala	Ile	Lys	Ala	Ser
	275				280				285						
Thr	Gly	Gly	Ala	Tyr	Gln	Ser	Tyr	Lys	Phe	Ile	Pro	Ala	Leu	Glu	Ala
	290				295				300						
Ala	Val	Lys	Gln	Ser	Tyr	Ala	Ala	Thr	Val	Ala	Thr	Ala	Pro	Ala	Val
	305				310				315				320		
Lys	Tyr	Thr	Val	Phe	Glu	Thr	Ala	Leu	Lys	Lys	Ala	Ile	Thr	Ala	Met
				325				330				335			
Ser	Gln	Ala	Gln	Lys	Ala	Ala	Lys	Pro	Ala	Ala	Ala	Val	Thr	Gly	Thr
				340				345				350			
Ala	Thr	Ser	Ala	Val	Gly	Ala	Ala	Thr	Gly	Ala	Ala	Thr	Ala	Ala	Ala
				355				360				365			
Gly	Gly	Tyr	Lys	Val											
				370											

<210> 147
 <211> 333
 <212> PRT
 <213> Poa pratensis (Kentucky bluegrass)

	400	147													
Met	Ala	Val	His	Gln	Tyr	Thr	Val	Ala	Leu	Phe	Leu	Ala	Val	Ala	Leu
	1			5				10				15			
Val	Ala	Gly	Pro	Ala	Ala	Ser	Tyr	Ala	Ala	Asp	Val	Gly	Tyr	Gly	Ala
				20				25				30			
Pro	Ala	Thr	Leu	Ala	Thr	Pro	Ala	Thr	Pro	Ala	Ala	Pro	Ala	Ala	Gly
				35				40				45			
Tyr	Thr	Pro	Ala	Ala	Pro	Ala	Gly	Ala	Ala	Pro	Lys	Ala	Thr	Thr	Asp
				50				55			60				

B1
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Glu Gln Lys Leu Ile Glu Lys Ile Asn Ala Gly Phe Lys Ala Ala Val
65 70 75 80
Ala Ala Ala Ala Gly Val Pro Ala Val Asp Lys Tyr Lys Thr Phe Val
85 90 95
Ala Thr Phe Gly Thr Ala Ser Asn Lys Ala Phe Ala Glu Ala Leu Ser
100 105 110
Thr Glu Pro Lys Gly Ala Ala Ala Ser Ser Asn Ala Val Leu Thr
115 120 125
Ser Lys Leu Asp Ala Ala Tyr Lys Leu Ala Tyr Lys Ser Ala Glu Gly
130 135 140
Ala Thr Pro Glu Ala Lys Tyr Asp Ala Tyr Val Ala Thr Leu Ser Glu
145 150 155 160
Ala Leu Arg Ile Ile Ala Gly Thr Leu Glu Val His Ala Val Lys Pro
165 170 175
Ala Gly Glu Glu Val Lys Ala Ile Pro Ala Gly Glu Leu Gln Val Ile
180 185 190
Asp Lys Val Asp Ala Ala Phe Lys Val Ala Ala Thr Ala Ala Asn Ala
195 200 205
Ala Pro Ala Asn Asp Lys Phe Thr Val Phe Glu Ala Ala Phe Asn Asp
210 215 220
Ala Ile Lys Ala Ser Thr Gly Gly Ala Tyr Gln Ser Tyr Lys Phe Ile
225 230 235 240
Pro Ala Leu Glu Ala Ala Val Lys Gln Ser Tyr Ala Ala Thr Val Ala
245 250 255
Thr Ala Pro Ala Val Lys Tyr Thr Val Phe Glu Thr Ala Leu Lys Lys
260 265 270
Ala Ile Thr Ala Met Ser Gln Ala Gln Lys Ala Ala Lys Pro Ala Ala
275 280 285
Ala Val Thr Ala Thr Ala Thr Gly Ala Val Gly Ala Ala Thr Gly Ala
290 295 300
Val Gly Ala Ala Thr Gly Ala Ala Thr Ala Ala Ala Gly Gly Tyr Lys
305 310 315 320
Thr Gly Ala Ala Thr Pro Thr Ala Gly Gly Tyr Lys Val
325 330

<210> 148
<211> 307
<212> PRT
<213> Poa pratensis (Kentucky bluegrass)

<400> 148
Met Ala Val Gln Lys Tyr Thr Val Ala Leu Phe Leu Val Ala Leu Val
1 5 10 15
Val Gly Pro Ala Ala Ser Tyr Ala Ala Asp Leu Ser Tyr Gly Ala Pro
20 25 30
Ala Thr Pro Ala Ala Pro Ala Ala Gly Tyr Thr Pro Ala Ala Pro Ala
35 40 45
Gly Ala Ala Pro Lys Ala Thr Thr Asp Glu Gln Lys Met Ile Glu Lys
50 55 60
Ile Asn Val Gly Phe Lys Ala Ala Val Ala Ala Gly Gly Val Pro
65 70 75 80
Ala Ala Asn Lys Tyr Lys Thr Phe Val Ala Thr Phe Gly Ala Ala Ser
85 90 95
Asn Lys Ala Phe Ala Glu Ala Leu Ser Thr Glu Pro Lys Gly Ala Ala
100 105 110
Val Asp Ser Ser Lys Ala Ala Leu Thr Ser Lys Leu Asp Ala Ala Tyr
115 120 125
Lys Leu Ala Tyr Lys Ser Ala Glu Gly Ala Thr Pro Glu Ala Lys Tyr
130 135 140
Asp Asp Tyr Val Ala Thr Leu Ser Glu Ala Leu Arg Ile Ile Ala Gly

145	150	155	160												
Thr	Leu	Glu	Val	His	Gly	Val	Lys	Pro	Ala	Ala	Glu	Val	Lys	Ala	
				165			170						175		
Thr	Pro	Ala	Gly	Glu	Leu	Gln	Val	Ile	Asp	Lys	Val	Asp	Ala	Ala	Phe
				180			185						190		
Lys	Val	Ala	Ala	Thr	Ala	Ala	Asn	Ala	Ala	Pro	Ala	Asn	Asp	Lys	Phe
				195			200						205		
Thr	Val	Phe	Glu	Ala	Ala	Phe	Asn	Asp	Ala	Ile	Lys	Ala	Ser	Thr	Gly
		210				215					220				
Gly	Ala	Tyr	Gln	Ser	Tyr	Lys	Phe	Ile	Pro	Ala	Leu	Glu	Ala	Ala	Val
225		230				235					240				
Lys	Gln	Ser	Tyr	Ala	Ala	Thr	Val	Ala	Thr	Ala	Pro	Ala	Val	Lys	Tyr
				245			250						255		
Thr	Val	Phe	Glu	Thr	Ala	Leu	Lys	Lys	Ala	Ile	Thr	Ala	Met	Ser	Gln
		260				265					270				
Ala	Gln	Lys	Ala	Ala	Lys	Pro	Ala	Ala	Ala	Ala	Thr	Gly	Thr	Ala	Thr
		275				280					285				
Ala	Ala	Val	Gly	Ala	Ala	Thr	Gly	Ala	Ala	Thr	Ala	Ala	Gly	Gly	
		290				295					300				
Tyr	Lys	Val													
	305														

<210> 149
 <211> 209
 <212> PRT
 <213> Polistes annularis (Paper wasp)

<400> 149															
Ser	Ser	Gln	Gly	Val	Asp	Tyr	Cys	Lys	Ile	Lys	Cys	Pro	Ser	Gly	Ile
1				5				10					15		
His	Thr	Val	Cys	Gln	Tyr	Gly	Glu	Ser	Thr	Lys	Pro	Ser	Lys	Asn	Cys
				20				25					30		
Ala	Gly	Lys	Val	Ile	Lys	Ser	Val	Gly	Pro	Thr	Glu	Glu	Lys	Lys	
				35			40					45			
Leu	Ile	Val	Ser	Glu	His	Asn	Arg	Phe	Arg	Gln	Lys	Val	Ala	Gln	Gly
				50			55					60			
Leu	Glu	Thr	Arg	Gly	Asn	Pro	Gly	Pro	Gln	Pro	Ala	Ala	Ser	Asp	Met
				65			70					75			80
Asn	Asp	Leu	Val	Trp	Asn	Asp	Glu	Leu	Ala	His	Ile	Ala	Gln	Val	Trp
				85				90					95		
Ala	Ser	Gln	Cys	Gln	Phe	Leu	Val	His	Asp	Lys	Cys	Arg	Asn	Thr	Ala
				100			105					110			
Lys	Tyr	Pro	Val	Gly	Gln	Asn	Ile	Ala	Tyr	Ala	Gly	Gly	Ser	Asn	Leu
				115			120					125			
Pro	Asp	Val	Val	Ser	Leu	Ile	Lys	Leu	Trp	Glu	Asn	Glu	Val	Lys	Asp
				130			135					140			
Phe	Asn	Tyr	Asn	Thr	Gly	Ile	Thr	Lys	Gln	Asn	Phe	Ala	Lys	Ile	Gly
145					150						155			160	
His	Tyr	Thr	Gln	Met	Val	Trp	Gly	Lys	Thr	Lys	Glu	Ile	Gly	Cys	Gly
				165			170					175			
Ser	Leu	Lys	Tyr	Met	Glu	Asn	Asn	Met	Gln	Asn	His	Tyr	Leu	Ile	Cys
				180			185					190			
Asn	Tyr	Gly	Pro	Ala	Gly	Asn	Tyr	Leu	Gly	Gln	Leu	Pro	Tyr	Thr	Lys
				195			200					205			
	Lys														

<210> 150
 <211> 206

<212> PRT

<213> Polistes dominulus (European paper wasp)

<400> 150

Asn Asp Tyr Cys Lys Ile Lys Cys Ser Ser Gly Val His Thr Val Cys
1 5 10 15
Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn Cys Ala Gly Lys Leu
20 25 30
Ile Lys Ser Val Gly Pro Thr Glu Glu Lys Lys Leu Ile Val Glu
35 40 45
Glu His Asn Arg Phe Arg Gln Lys Val Ala Lys Gly Leu Glu Thr Arg
50 55 60
Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asn Met Asn Asn Leu Val
65 70 75 80
Trp Asn Asp Glu Leu Ala Lys Ile Ala Gln Val Trp Ala Ser Gln Cys
85 90 95
Gln Ile Leu Val His Asp Lys Cys Arg Asn Thr Glu Lys Tyr Gln Val
100 105 110
Gly Gln Asn Ile Ala Tyr Ala Gly Ser Ser Asn His Phe Pro Ser Val
115 120 125
Thr Lys Leu Ile Gln Leu Trp Glu Asn Glu Val Lys Asp Phe Asn Tyr
130 135 140
Asn Thr Gly Ile Thr Asn Lys Asn Phe Gly Lys Val Gly His Tyr Thr
145 150 155 160
Gln Met Val Trp Gly Asn Thr Lys Glu Val Gly Cys Gly Ser Leu Lys
165 170 175
Tyr Val Glu Lys Asn Met Gln Ile His Tyr Leu Ile Cys Asn Tyr Gly
180 185 190
Pro Ala Gly Asn Tyr Leu Gly Gln Pro Ile Tyr Thr Lys Lys
195 200 205

<210> 151

<211> 205

<212> PRT

<213> Polistes exclamans (Paper wasp)

<400> 151

Val Asp Tyr Cys Lys Ile Lys Cys Pro Ser Gly Ile His Thr Val Cys
1 5 10 15
Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn Cys Ala Gly Lys Val
20 25 30
Ile Lys Ser Val Gly Pro Thr Glu Glu Lys Lys Leu Ile Val Ser
35 40 45
Glu His Asn Arg Phe Arg Gln Lys Val Ala Gln Gly Leu Glu Thr Arg
50 55 60
Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asp Met Asn Asp Leu Val
65 70 75 80
Trp Asn Asp Glu Leu Ala His Ile Ala Gln Val Trp Ala Ser Gln Cys
85 90 95
Gln Phe Leu Val His Asp Lys Cys Arg Asn Thr Ala Lys Tyr Pro Val
100 105 110
Gly Gln Asn Ile Ala Tyr Ala Gly Gly Ser Lys Leu Pro Asp Val Val
115 120 125
Ser Leu Ile Lys Leu Trp Glu Asn Glu Val Lys Asp Phe Asn Tyr Asn
130 135 140
Thr Gly Ile Thr Lys Gln Asn Phe Ala Lys Ile Gly His Tyr Thr Gln
145 150 155 160
Met Val Trp Gly Lys Thr Lys Glu Ile Gly Cys Gly Ser Leu Lys Tyr
165 170 175
Ile Glu Asn Lys Met Gln Asn His Tyr Leu Ile Cys Asn Tyr Gly Pro

180 185 190
Ala Gly Asn Tyr Leu Gly Gln Leu Pro Tyr Thr Lys Lys
195 200 205

<210> 152
<211> 205
<212> PRT
<213> Polistes fuscatus (Paper wasp)

<400> 152
Val Asp Tyr Cys Lys Ile Lys Cys Ser Ser Gly Ile His Thr Val Cys
1 5 10 15
Gln Tyr Gly Glu Ser Thr Lys Pro Ser Lys Asn Cys Ala Asp Lys Val
20 25 30
Ile Lys Ser Val Gly Pro Thr Glu Glu Glu Lys Lys Leu Ile Val Asn
35 40 45
Glu His Asn Arg Phe Arg Gln Lys Val Ala Gln Gly Leu Glu Thr Arg
50 55 60
Gly Asn Pro Gly Pro Gln Pro Ala Ala Ser Asp Met Asn Asn Leu Val
65 70 75 80
Trp Asn Asp Glu Leu Ala His Ile Ala Gln Val Trp Ala Ser Gln Cys
85 90 95
Gln Ile Leu Val His Asp Lys Cys Arg Asn Thr Ala Lys Tyr Gln Val
100 105 110
Gly Gln Asn Ile Ala Tyr Ala Gly Gly Ser Lys Leu Pro Asp Val Val
115 120 125
Ser Leu Ile Lys Leu Trp Glu Asn Glu Val Lys Asp Phe Asn Tyr Asn
130 135 140
Lys Gly Ile Thr Lys Gln Asn Phe Gly Lys Val Gly His Tyr Thr Gln
145 150 155 160
Met Ile Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Leu Lys Tyr
165 170 175
Met Lys Asn Asn Met Gln His His Tyr Leu Ile Cys Asn Tyr Gly Pro
180 185 190
Ala Gly Asn Tyr Leu Gly Gln Leu Pro Tyr Thr Lys Lys
195 200 205

<210> 153
<211> 160
<212> PRT
<213> Prunus avium (Cherry)

<400> 153
Met Gly Val Phe Thr Tyr Glu Ser Glu Phe Thr Ser Glu Ile Pro Pro
1 5 10 15
Pro Arg Leu Phe Lys Ala Phe Val Leu Asp Ala Asp Asn Leu Val Pro
20 25 30
Lys Ile Ala Pro Gln Ala Ile Lys His Ser Glu Ile Leu Glu Gly Asp
35 40 45
Gly Gly Pro Gly Thr Ile Lys Lys Ile Thr Phe Gly Glu Gly Ser Gln
50 55 60
Tyr Gly Tyr Val Lys His Lys Ile Asp Ser Ile Asp Lys Glu Asn Tyr
65 70 75 80
Ser Tyr Ser Tyr Thr Leu Ile Glu Gly Asp Ala Leu Gly Asp Thr Leu
85 90 95
Glu Lys Ile Ser Tyr Glu Thr Lys Leu Val Ala Ser Pro Ser Gly Gly
100 105 110
Ser Ile Ile Lys Ser Thr Ser His Tyr His Thr Lys Gly Asn Val Glu
115 120 125

Ile Lys Glu Glu His Val Lys Ala Gly Lys Glu Lys Ala Ser Asn Leu
130 135 140
Phe Lys Leu Ile Glu Thr Tyr Leu Lys Gly His Pro Asp Ala Tyr Asn
145 150 155 160

<210> 154
<211> 181
<212> PRT
<213> Rattus norvegicus (Rat)

<400> 154
Met Lys Leu Leu Leu Leu, Leu Cys Leu Gly Leu Thr Leu Val Cys
1 5 10 15
Gly His Ala Glu Glu Ala Ser Ser Thr Arg Gly Asn Leu Asp Val Ala
20 25 30
Lys Leu Asn Gly Asp Trp Phe Ser Ile Val Val Ala Ser Asn Lys Arg
35 40 45
Glu Lys Ile Glu Glu Asn Gly Ser Met Arg Val Phe Met Gln His Ile
50 55 60
Asp Val Leu Glu Asn Ser Leu Gly Phe Lys Phe Arg Ile Lys Glu Asn
65 70 75 80
Gly Glu Cys Arg Glu Leu Tyr Leu Val Ala Tyr Lys Thr Pro Glu Asp
85 90 95
Gly Glu Tyr Phe Val Glu Tyr Asp Gly Gly Asn Thr Phe Thr Ile Leu
100 105 110
Lys Thr Asp Tyr Asp Arg Tyr Val Met Phe His Leu Ile Asn Phe Lys
115 120 125
Asn Gly Glu Thr Phe Gln Leu Met Val Leu Tyr Gly Arg Thr Lys Asp
130 135 140
Leu Ser Ser Asp Ile Lys Glu Lys Phe Ala Lys Leu Cys Glu Ala His
145 150 155 160
Gly Ile Thr Arg Asp Asn Ile Ile Asp Leu Thr Lys Thr Asp Arg Cys
165 170 175
Leu Gln Ala Arg Gly
180

<210> 155
<211> 138
<212> PRT
<213> Solenopsis invicta (Red imported fire ant)

<400> 155
Met Lys Ser Phe Val Leu Ala Thr Cys Leu Leu Gly Phe Ala Gln Ile
1 5 10 15
Ile Tyr Ala Asp Asn Lys Glu Leu Lys Ile Ile Arg Lys Asp Val Ala
20 25 30
Glu Cys Leu Arg Thr Leu Pro Lys Cys Gly Asn Gln Pro Asp Asp Pro
35 40 45
Leu Ala Arg Val Asp Val Trp His Cys Ala Met Ala Lys Arg Gly Val
50 55 60
Tyr Asp Asn Pro Asp Pro Ala Val Ile Lys Glu Arg Ser Met Lys Met
65 70 75 80
Cys Thr Lys Ile Ile Thr Asp Pro Ala Asn Val Glu Asn Cys Lys Lys
85 90 95
Val Ala Ser Arg Cys Val Asp Arg Glu Thr Gln Gly Pro Lys Ser Asn
100 105 110
Arg Gln Lys Ala Val Asn Ile Ile Gly Cys Ala Leu Arg Ala Gly Val
115 120 125
Ala Glu Thr Thr Val Leu Ala Arg Lys Lys

<210> 156
 <211> 212
 <212> PRT
 <213> Solenopsis invicta (Red imported fire ant)

 <400> 156
 Thr Asn Tyr Cys Asn Leu Gln Ser Cys Lys Arg Asn Asn Ala Ile His
 1 5 10 15
 Thr Met Cys Gln Tyr Thr Ser Pro Thr Pro Gly Pro Met Cys Leu Glu
 20 25 30
 Tyr Ser Asn Val Gly Phe Thr Asp Ala Glu Lys Asp Ala Ile Val Asn
 35 40 45
 Lys His Asn Glu Leu Arg Gln Arg Val Ala Ser Gly Lys Glu Met Arg
 50 55 60
 Gly Thr Asn Gly Pro Gln Pro Pro Ala Val Lys Met Pro Asn Leu Thr
 65 70 75 80
 Trp Asp Pro Glu Leu Ala Thr Ile Ala Gln Arg Trp Ala Asn Gln Cys
 85 90 95
 Thr Phe Glu His Asp Ala Cys Arg Asn Val Glu Arg Phe Ala Val Gly
 100 105 110
 Gln Asn Ile Ala Ala Thr Ser Ser Gly Lys Asn Lys Ser Thr Pro
 115 120 125
 Asn Glu Met Ile Leu Leu Trp Tyr Asn Glu Val Lys Asp Phe Asp Asn
 130 135 140
 Arg Trp Ile Ser Ser Phe Pro Ser Asp Asp Asn Ile Leu Met Lys Val
 145 150 155 160
 Glu His Tyr Thr Gln Ile Val Trp Ala Lys Thr Ser Lys Ile Gly Cys
 165 170 175
 Ala Arg Ile Met Phe Lys Glu Pro Asp Asn Trp Thr Lys His Tyr Leu
 180 185 190
 Val Cys Asn Tyr Gly Pro Ala Gly Asn Val Leu Gly Ala Pro Ile Tyr
 195 200 205
 Glu Ile Lys Lys
 210

<210> 157
 <211> 117
 <212> PRT
 <213> Solenopsis invicta (Red imported fire ant)

 <400> 157
 Leu Asp Ile Lys Glu Ile Ser Ile Met Asn Arg Ile Leu Glu Lys Cys
 1 5 10 15
 Ile Arg Thr Val Pro Lys Arg Glu Asn Asp Pro Ile Asn Pro Leu Lys
 20 25 30
 Asn Val Asn Val Leu Tyr Cys Ala Phe Thr Lys Arg Gly Ile Phe Thr
 35 40 45
 Pro Lys Gly Val Asn Thr Lys Gln Tyr Ile Asn Tyr Cys Glu Lys Thr
 50 55 60
 Ile Ile Ser Pro Ala Asp Ile Lys Leu Cys Lys Ile Ala Ser Lys
 65 70 75 80
 Cys Val Lys Lys Val Tyr Asp Arg Pro Gly Pro Val Ile Glu Arg Ser
 85 90 95
 Lys Asn Leu Leu Ser Cys Val Leu Lys Lys Gly Leu Leu Glu Leu Thr
 100 105 110
 Val Tyr Gly Lys Asn
 115

<210> 158
<211> 119
<212> PRT
<213> Solenopsis richteri (Black imported fire ant)

<400> 158
Asp Ile Glu Ala Gln Arg Val Leu Arg Lys Asp Ile Ala Glu Cys Ala
1 5 10 15
Arg Thr Leu Pro Lys Cys Val Asn Gln Pro Asp Asp Pro Leu Ala Arg
20 25 30
Val Asp Val Trp His Cys Ala Met Ser Lys Arg Gly Val Tyr Asp Asn
35 40 45
Pro Asp Pro Ala Val Val Lys Glu Lys Asn Ser Lys Met Cys Pro Lys
50 55 60
Ile Ile Thr Asp Pro Ala Asp Val Glu Asn Cys Lys Lys Val Val Ser
65 70 75 80
Arg Cys Val Asp Arg Glu Thr Gln Arg Pro Arg Ser Asn Arg Gln Lys
85 90 95
Ala Ile Asn Ile Thr Gly Cys Ile Leu Arg Ala Gly Val Val Glu Ala
100 105 110
Thr Val Leu Ala Arg Glu Lys
115

<210> 159
<211> 211
<212> PRT
<213> Solenopsis richteri (Black imported fire ant)

<400> 159
Thr Asn Tyr Cys Asn Leu Gln Ser Cys Lys Arg Asn Asn Ala Ile His
1 5 10 15
Thr Met Cys Gln Tyr Thr Ser Pro Thr Pro Gly Pro Met Cys Leu Glu
20 25 30
Tyr Ser Asn Val Gly Phe Thr Asp Ala Glu Lys Asp Ala Ile Val Asn
35 40 45
Lys His Asn Glu Leu Arg Gln Arg Val Ala Ser Gly Lys Glu Met Arg
50 55 60
Gly Thr Asn Gly Pro Gln Pro Pro Ala Val Lys Met Pro Asn Leu Thr
65 70 75 80
Trp Asp Pro Glu Leu Ala Thr Ile Ala Gln Arg Trp Ala Asn Gln Cys
85 90 95
Thr Phe Glu His Asp Ala Cys Arg Asn Val Glu Arg Phe Ala Val Gly
100 105 110
Gln Asn Ile Ala Ala Thr Ser Ser Gly Lys Asn Lys Ser Thr Leu
115 120 125
Ser Asp Met Ile Leu Leu Trp Tyr Asn Glu Val Lys Asp Phe Asp Asn
130 135 140
Arg Trp Ile Ser Ser Phe Pro Ser Asp Gly Asn Ile Leu Met His Val
145 150 155 160
Gly His Tyr Thr Gln Ile Val Trp Ala Lys Thr Lys Lys Ile Gly Cys
165 170 175
Gly Arg Ile Met Phe Lys Glu Asp Asn Trp Asn Lys His Tyr Leu Val
180 185 190
Cys Asn Tyr Gly Pro Ala Gly Asn Val Leu Gly Ala Gln Ile Tyr Glu
195 200 205
Ile Lys Lys
210

<210> 160
<211> 202
<212> PRT
<213> Vespa crabro (European hornet)

<400> 160

Asn	Asn	Tyr	Cys	Lys	Ile	Lys	Cys	Arg	Ser	Gly	Ile	His	Thr	Leu	Cys
1				5				10				15			
Lys	Tyr	Gly	Thr	Ser	Thr	Lys	Pro	Asn	Cys	Gly	Lys	Asn	Val	Val	Lys
				20				25				30			
Ala	Ser	Gly	Leu	Thr	Lys	Gln	Glu	Asn	Leu	Glu	Ile	Leu	Lys	Gln	His
				35				40			45				
Asn	Glu	Phe	Arg	Gln	Lys	Val	Ala	Arg	Gly	Leu	Glu	Thr	Arg	Gly	Asn
				50				55			60				
Pro	Gly	Pro	Gln	Pro	Pro	Ala	Lys	Ser	Met	Asn	Thr	Leu	Val	Trp	Asn
				65				70			75			80	
Asp	Glu	Leu	Ala	Gln	Ile	Ala	Gln	Val	Trp	Ala	Asn	Gln	Cys	Asn	Tyr
				85				90			95				
Gly	His	Asp	Asn	Cys	Arg	Asn	Ser	Ala	Lys	Tyr	Ser	Val	Gly	Gln	Asn
				100				105			110				
Ile	Ala	Glu	Gly	Ser	Thr	Thr	Ala	Asp	Asn	Phe	Gly	Ser	Val	Ser	Asn
				115				120			125				
Met	Val	Lys	Met	Trp	Glu	Asp	Glu	Val	Lys	Asp	Tyr	Gln	Tyr	Gly	Ser
				130				135			140				
Pro	Lys	Asn	Lys	Leu	Asn	Lys	Val	Gly	His	Tyr	Thr	Gln	Met	Val	Trp
				145				150			155			160	
Ala	Lys	Thr	Lys	Glu	Ile	Gly	Cys	Gly	Ser	Ile	Lys	Tyr	Ile	Glu	Asn
				165				170			175				
Gly	Trp	His	Arg	His	Tyr	Leu	Val	Cys	Asn	Tyr	Gly	Pro	Ala	Gly	Asn
				180				185			190				
Val	Gly	Asn	Glu	Pro	Ile	Tyr	Glu	Arg	Lys						
				195				200							

<210> 161
<211> 202
<212> PRT
<213> Vespa crabro (European hornet)

<400> 161

Asn	Asn	Tyr	Cys	Lys	Ile	Lys	Cys	Arg	Ser	Gly	Ile	His	Thr	Leu	Cys
1				5				10			15				
Lys	Tyr	Gly	Thr	Ser	Thr	Lys	Pro	Asn	Cys	Gly	Lys	Asn	Val	Val	Lys
				20				25			30				
Ala	Ser	Gly	Leu	Thr	Lys	Gln	Glu	Asn	Leu	Glu	Ile	Leu	Lys	Gln	His
				35				40			45				
Asn	Glu	Phe	Arg	Gln	Lys	Val	Ala	Arg	Gly	Leu	Glu	Thr	Arg	Gly	Asn
				50				55			60				
Pro	Gly	Pro	Gln	Pro	Pro	Ala	Lys	Ser	Met	Asn	Thr	Leu	Val	Trp	Asn
				65				70			75			80	
Asp	Glu	Leu	Ala	Gln	Ile	Ala	Gln	Val	Trp	Ala	Asn	Gln	Cys	Asn	Tyr
				85				90			95				
Gly	His	Asp	Asn	Cys	Arg	Asn	Ser	Ala	Lys	Tyr	Ser	Val	Gly	Gln	Asn
				100				105			110				
Ile	Ala	Glu	Gly	Ser	Thr	Ser	Ala	Asp	Asn	Phe	Val	Asn	Val	Ser	Asn
				115				120			125				
Met	Val	Lys	Met	Trp	Glu	Asp	Glu	Val	Lys	Asp	Tyr	Gln	Tyr	Gly	Ser
				130				135			140				
Pro	Lys	Asn	Lys	Leu	Asn	Lys	Val	Gly	His	Tyr	Thr	Gln	Met	Val	Trp
				145				150			155			160	

Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Glu Asp Tyr Ile Glu Asp
165 170 175
Gly Trp His Arg His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn
180 185 190
Val Gly Asn Glu Pro Ile Tyr Glu Arg Lys
195 200

<210> 162
<211> 204
<212> PRT
<213> *Vespula flavopilosa* (Yellow jacket) (Wasp)

<400> 162
Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
1 5 10 15
Cys Lys Tyr Gly Ser Leu Lys Pro Asn Cys Gly Asn Lys Val Val Val
20 25 30
Ser Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His
35 40 45
Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
50 55 60
Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Asn
65 70 75 80
Asp Glu Leu Ala Tyr Val Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr
85 90 95
Gly His Asp Thr Cys Arg Asp Ile Ala Lys Tyr Gln Val Gly Gln Asn
100 105 110
Val Ala Leu Thr Gly Ser Thr Ala Ala Lys Tyr Asp Asp Pro Val Lys
115 120 125
Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
130 135 140
Lys Phe Ser Gly Asn Asn Phe Leu Lys Thr Gly His Tyr Thr Gln Met
145 150 155 160
Val Trp Ala Asn Thr Lys Glu Val Gly Cys Gly Ser Ile Lys Phe Ile
165 170 175
Gln Glu Lys Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
180 185 190
Gly Asn Phe Gln Asn Glu Glu Leu Tyr Gln Thr Lys
195 200

<210> 163
<211> 204
<212> PRT
<213> *Vespula germanica* (Yellow jacket) (Wasp)

<400> 163
Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
1 5 10 15
Cys Lys Tyr Glu Ser Leu Lys Pro Asn Cys Ala Asn Lys Lys Val Val
20 25 30
Ala Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His
35 40 45
Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
50 55 60
Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Ser
65 70 75 80
Asp Glu Leu Ala Tyr Ile Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr
85 90 95
Gly His Asp Thr Cys Arg Asp Val Ala Lys Tyr Pro Val Gly Gln Asn

	100		105		110										
Val	Ala	Leu	Thr	Gly	Ser	Thr	Ala	Ala	Lys	Tyr	Asp	Asn	Pro	Val	Lys
							115	120				125			
Leu	Val	Lys	Met	Trp	Glu	Asp	Glu	Val	Lys	Asp	Tyr	Asn	Pro	Lys	Lys
							130	135				140			
Lys	Phe	Ser	Glu	Asn	Asn	Phe	Leu	Lys	Ile	Gly	His	Tyr	Thr	Gln	Met
							145	150			155			160	
Val	Trp	Ala	Asn	Thr	Lys	Glu	Val	Gly	Cys	Gly	Ser	Ile	Lys	Tyr	Ile
							165	170				175			
Gln	Asp	Lys	Trp	His	His	Tyr	Leu	Val	Cys	Asn	Tyr	Gly	Pro	Ser	
							180	185			190				
Gly	Asn	Phe	Gly	Asn	Glu	Glu	Leu	Tyr	Gln	Thr	Lys				
							195	200							

<210> 164

<211> 300

<212> PRT

<213> Vespula maculifrons (Eastern yellow jacket) (Wasp)

<400> 164

Gly	Pro	Lys	Cys	Pro	Phe	Asn	Ser	Asp	Thr	Val	Ser	Ile	Ile	Ile	Glu
				1	5				10			15			
Thr	Arg	Glu	Asn	Arg	Asn	Arg	Asp	Leu	Tyr	Thr	Leu	Gln	Thr	Leu	Gln
									20	25			30		
Asn	His	Pro	Glu	Phe	Lys	Lys	Thr	Ile	Thr	Arg	Pro	Val	Val	Phe	
							35	40			45				
Ile	Thr	His	Gly	Phe	Thr	Ser	Ser	Ala	Ser	Glu	Lys	Asn	Phe	Ile	Asn
							50	55			60				
Leu	Ala	Lys	Ala	Leu	Val	Asp	Lys	Asp	Asn	Tyr	Met	Val	Ile	Ser	Ile
							65	70			75			80	
Asp	Trp	Gln	Thr	Ala	Ala	Cys	Thr	Asn	Glu	Tyr	Pro	Gly	Leu	Lys	Tyr
							85		90			95			
Ala	Tyr	Tyr	Pro	Thr	Ala	Ala	Ser	Asn	Thr	Arg	Leu	Val	Gly	Gln	Tyr
							100		105			110			
Ile	Ala	Thr	Ile	Thr	Gln	Lys	Leu	Val	Lys	Asp	Tyr	Lys	Ile	Ser	Met
							115		120			125			
Ala	Asn	Ile	Arg	Leu	Ile	Gly	His	Ser	Leu	Gly	Ala	His	Val	Ser	Gly
							130	135			140				
Phe	Ala	Gly	Lys	Arg	Val	Gln	Glu	Leu	Lys	Leu	Gly	Lys	Tyr	Ser	Glu
							145	150			155			160	
Ile	Ile	Gly	Leu	Asp	Pro	Ala	Arg	Pro	Ser	Phe	Asp	Ser	Asn	His	Cys
							165		170			175			
Ser	Glu	Arg	Leu	Cys	Glu	Thr	Asp	Ala	Glu	Tyr	Val	Gln	Ile	Ile	His
							180		185			190			
Thr	Ser	Asn	Tyr	Leu	Gly	Thr	Glu	Lys	Ile	Leu	Gly	Thr	Val	Asp	Phe
							195		200			205			
Tyr	Met	Asn	Asn	Gly	Lys	Asn	Asn	Pro	Gly	Cys	Gly	Arg	Phe	Phe	Ser
							210		215			220			
Glu	Val	Cys	Ser	His	Thr	Arg	Ala	Val	Ile	Tyr	Met	Ala	Glu	Cys	Ile
							225		230			235			
Lys	His	Glu	Cys	Cys	Leu	Ile	Gly	Ile	Pro	Arg	Ser	Lys	Ser	Ser	Gln
							245		250			255			
Pro	Ile	Ser	Arg	Cys	Thr	Lys	Gln	Glu	Cys	Val	Cys	Val	Gly	Leu	Asn
							260		265			270			
Ala	Lys	Lys	Tyr	Pro	Ser	Arg	Gly	Ser	Phe	Tyr	Val	Pro	Val	Glu	Ser
							275		280			285			
Thr	Ala	Pro	Phe	Cys	Asn	Asn	Lys	Gly	Lys	Ile	Ile				
							290		295			300			

<210> 165
<211> 204
<212> PRT
<213> *Vespula maculifrons* (Eastern yellow jacket) (Wasp)

<400> 165
Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
1 5 10 15
Cys Lys Tyr Gly Ser Leu Lys Pro Asn Cys Gly Asn Lys Lys Val Val
20 25 30
Ser Tyr Gly Leu Thr Lys Gln Glu Lys Gln Asp Ile Leu Lys Glu His
35 40 45
Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
50 55 60
Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Ser
65 70 75 80
Asp Glu Leu Ala Tyr Ile Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr
85 90 95
Gly His Asp Thr Cys Arg Asp Val Ala Lys Tyr Gln Val Gly Gln Asn
100 105 110
Val Ala Leu Thr Gly Ser Thr Ala Ala Val Tyr Asn Asp Pro Val Lys
115 120 125
Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
130 135 140
Lys Phe Ser Glu Asn Asn Phe Leu Lys Ile Gly His Tyr Thr Gln Met
145 150 155 160
Val Trp Ala Asn Thr Lys Glu Val Gly Cys Gly Ser Ile Lys Tyr Ile
165 170 175
Gln Glu Asn Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
180 185 190
Gly Asn Phe Gln Asn Glu Glu Leu Tyr Gln Thr Lys
195 200

<210> 166
<211> 204
<212> PRT
<213> *Vespula pensylvanica* (Western yellow jacket) (Wasp)

<400> 166
Asn Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
1 5 10 15
Cys Lys Tyr Gly Ser Leu Lys Pro Asn Cys Gly Asn Lys Ile Val Val
20 25 30
Ser Tyr Gly Leu Thr Lys Glu Glu Lys Gln Asp Ile Leu Lys Glu His
35 40 45
Asn Asp Phe Arg Gln Lys Ile Ala Arg Gly Leu Glu Thr Arg Gly Asn
50 55 60
Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Lys Asn Leu Val Trp Asn
65 70 75 80
Asp Glu Leu Ala Tyr Val Ala Gln Val Trp Ala Asn Gln Cys Gln Tyr
85 90 95
Gly His Asp Thr Cys Arg Asp Val Ala Lys Tyr Pro Val Gly Gln Asn
100 105 110
Val Ala Leu Thr Gly Ser Thr Ala Asp Lys Tyr Asp Asn Pro Val Lys
115 120 125
Leu Val Lys Met Trp Glu Asp Glu Val Lys Asp Tyr Asn Pro Lys Lys
130 135 140
Lys Phe Ser Glu Asn Asn Phe Asn Lys Ile Gly His Tyr Thr Gln Met
145 150 155 160
Val Trp Ala Asn Thr Lys Glu Ile Gly Cys Gly Ser Ile Lys Tyr Ile

165 170 175
Gln Asn Glu Trp His Lys His Tyr Leu Val Cys Asn Tyr Gly Pro Ser
180 185 190
Gly Asn Phe Gly Asn Glu Glu Leu Tyr Gln Thr Lys
195 200

<210> 167

<211> 205

<212> PRT

<213> *Vespa squamosa* (Southern yellow jacket) (Wasp)

<400> 167

Val Asp Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr Ala
1 5 10 15
Cys Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Asn Met Val Val
20 25 30
Lys Ser Tyr Gly Val Thr Gln Ala Glu Lys Gln Glu Ile Leu Lys Ile
35 40 45
His Asn Asp Phe Arg Asn Lys Val Ala Arg Gly Leu Glu Thr Arg Gly
50 55 60
Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Asn Leu Val Trp
65 70 75 80
Asn Asn Glu Leu Ala Asn Ile Ala Gln Ile Trp Ala Ser Gln Cys Lys
85 90 95
Tyr Gly His Asp Thr Cys Lys Asp Thr Thr Lys Tyr Asn Val Gly Gln
100 105 110
Asn Ile Ala Val Ser Ser Ser Thr Ala Ala Val Tyr Glu Asn Val Gly
115 120 125
Asn Leu Val Lys Ala Trp Glu Asn Glu Val Lys Asp Phe Asn Pro Thr
130 135 140
Ile Ser Trp Glu Gln Asn Glu Phe Lys Lys Ile Gly His Tyr Thr Gln
145 150 155 160
Met Val Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Ile Lys Tyr
165 170 175
Val Asp Asn Asn Trp Tyr Thr His Tyr Leu Val Cys Asn Tyr Gly Pro
180 185 190
Ala Gly Asn Phe Gly Asn Gln Glu Val Tyr Glu Arg Lys
195 200 205

<210> 168

<211> 336

<212> PRT

<213> *Vespa vulgaris* (Yellow jacket) (Wasp)

<400> 168

Met Glu Glu Asn Met Asn Leu Lys Tyr Leu Leu Leu Phe Val Tyr Phe
1 5 10 15
Val Gln Val Leu Asn Cys Cys Tyr Gly His Gly Asp Pro Leu Ser Tyr
20 25 30
Glu Leu Asp Arg Gly Pro Lys Cys Pro Phe Asn Ser Asp Thr Val Ser
35 40 45
Ile Ile Ile Glu Thr Arg Glu Asn Arg Asn Arg Asp Leu Tyr Thr Leu
50 55 60
Gln Thr Leu Gln Asn His Pro Glu Phe Lys Lys Lys Thr Ile Thr Arg
65 70 75 80
Pro Val Val Phe Ile Thr His Gly Phe Thr Ser Ser Ala Ser Glu Thr
85 90 95
Asn Phe Ile Asn Leu Ala Lys Ala Leu Val Asp Lys Asp Asn Tyr Met
100 105 110

Val	Ile	Ser	Ile	Asp	Trp	Gln	Thr	Ala	Ala	Cys	Thr	Asn	Glu	Ala	Ala
115								120					125		
Gly	Leu	Lys	Tyr	Leu	Tyr	Tyr	Pro	Thr	Ala	Ala	Arg	Asn	Thr	Arg	Leu
130								135					140		
Val	Gly	Gln	Tyr	Ile	Ala	Thr	Ile	Thr	Gln	Lys	Leu	Val	Lys	His	Tyr
145								150				155			160
Lys	Ile	Ser	Met	Ala	Asn	Ile	Arg	Leu	Ile	Gly	His	Ser	Leu	Gly	Ala
								165				170			175
His	Ala	Ser	Gly	Phe	Ala	Gly	Lys	Lys	Val	Gln	Glu	Leu	Lys	Leu	Gly
								180				185			190
Lys	Tyr	Ser	Glu	Ile	Ile	Gly	Leu	Asp	Pro	Ala	Arg	Pro	Ser	Phe	Asp
								195				200			205
Ser	Asn	His	Cys	Ser	Glu	Arg	Leu	Cys	Glu	Thr	Asp	Ala	Glu	Tyr	Val
								210				215			220
Gln	Ile	Ile	His	Thr	Ser	Asn	Tyr	Leu	Gly	Thr	Glu	Lys	Thr	Leu	Gly
								225				230			240
Thr	Val	Asp	Phe	Tyr	Met	Asn	Asn	Gly	Lys	Asn	Gln	Pro	Gly	Cys	Gly
								245				250			255
Arg	Phe	Phe	Ser	Glu	Val	Cys	Ser	His	Ser	Arg	Ala	Val	Ile	Tyr	Met
								260				265			270
Ala	Glu	Cys	Ile	Lys	His	Glu	Cys	Cys	Leu	Ile	Gly	Ile	Pro	Lys	Ser
								275				280			285
Lys	Ser	Ser	Gln	Pro	Ile	Ser	Ser	Cys	Thr	Lys	Gln	Glu	Cys	Val	Cys
								290				295			300
Val	Gly	Leu	Asn	Ala	Lys	Lys	Tyr	Pro	Ser	Arg	Gly	Ser	Phe	Tyr	Val
								305				310			320
Pro	Val	Glu	Ser	Thr	Ala	Pro	Phe	Cys	Asn	Asn	Lys	Gly	Lys	Ile	Ile
								325				330			335

<210> 169

<211> 331

<212> PRT

<213> Vespula vulgaris (Yellow jacket) (Wasp)

<400> 169

Ser	Glu	Arg	Pro	Lys	Arg	Val	Phe	Asn	Ile	Tyr	Trp	Asn	Val	Pro	Thr
1									5			10			15
Phe	Met	Cys	His	Gln	Tyr	Asp	Leu	Tyr	Phe	Asp	Glu	Val	Thr	Asn	Phe
								20			25			30	
Asn	Ile	Lys	Arg	Asn	Ser	Lys	Asp	Asp	Phe	Gln	Gly	Asp	Lys	Ile	Ala
								35			40			45	
Ile	Phe	Tyr	Asp	Pro	Gly	Glu	Phe	Pro	Ala	Leu	Leu	Ser	Leu	Lys	Asp
								50			55			60	
Gly	Lys	Tyr	Lys	Lys	Arg	Asn	Gly	Gly	Val	Pro	Gln	Glu	Gly	Asn	Ile
								65			70			80	
Thr	Ile	His	Leu	Gln	Lys	Phe	Ile	Glu	Asn	Leu	Asp	Lys	Ile	Tyr	Pro
								85			90			95	
Asn	Arg	Asn	Phe	Ser	Gly	Ile	Gly	Val	Ile	Asp	Phe	Glu	Arg	Trp	Arg
								100			105			110	
Pro	Ile	Phe	Arg	Gln	Asn	Trp	Gly	Asn	Met	Lys	Ile	His	Lys	Asn	Phe
								115			120			125	
Ser	Ile	Asp	Leu	Val	Arg	Asn	Glu	His	Pro	Thr	Trp	Asn	Lys	Lys	Met
								130			135			140	
Ile	Glu	Leu	Glu	Ala	Ser	Lys	Arg	Phe	Glu	Lys	Tyr	Ala	Arg	Phe	Phe
								145			150			155	
Met	Glu	Glu	Thr	Leu	Lys	Leu	Ala	Lys	Lys	Thr	Arg	Lys	Gln	Ala	Asp
								165			170			175	
Trp	Gly	Tyr	Tyr	Gly	Tyr	Pro	Tyr	Cys	Phe	Asn	Met	Ser	Pro	Asn	Asn
								180			185			190	
Leu	Val	Pro	Glu	Cys	Asp	Val	Thr	Ala	Met	His	Glu	Asn	Asp	Lys	Met

195	200	205
Ser Trp Leu Phe Asn Asn Gln Asn Val Leu Leu Pro Ser Val Tyr Val		
210	215	220
Arg Gln Glu Leu Thr Pro Asp Gln Arg Ile Gly Leu Val Gln Gly Arg		
225	230	235
Val Lys Glu Ala Val Arg Ile Ser Asn Asn Leu Lys His Ser Pro Lys		
245	250	255
Val Leu Ser Tyr Trp Trp Tyr Val Tyr Gln Asp Glu Thr Asn Thr Phe		
260	265	270
Leu Thr Glu Thr Asp Val Lys Lys Thr Phe Gln Glu Ile Val Ile Asn		
275	280	285
Gly Gly Asp Gly Ile Ile Trp Gly Ser Ser Asp Val Asn Ser		
290	295	300
Leu Ser Lys Cys Lys Arg Leu Gln Asp Tyr Leu Leu Thr Val Leu Gly		
305	310	315
Pro Ile Ala Ile Asn Val Thr Glu Ala Val Asn		
325	330	

<210> 170

<211> 227

<212> PRT

<213> *Vespula vulgaris* (Yellow jacket) (Wasp)

<400> 170

Met Glu Ile Ser Gly Leu Val Tyr Leu Ile Ile Val Thr Ile Ile		
1	5	10
Asp Leu Pro Tyr Gly Lys Ala Asn Asn Tyr Cys Lys Ile Lys Cys Leu		
20	25	30
Lys Gly Gly Val His Thr Ala Cys Lys Tyr Gly Ser Leu Lys Pro Asn		
35	40	45
Cys Gly Asn Lys Val Val Val Ser Tyr Gly Leu Thr Lys Gln Glu Lys		
50	55	60
Gln Asp Ile Leu Lys Glu His Asn Asp Phe Arg Gln Lys Ile Ala Arg		
65	70	75
Gly Leu Glu Thr Arg Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn		
85	90	95
Met Lys Asn Leu Val Trp Asn Asp Glu Leu Ala Tyr Val Ala Gln Val		
100	105	110
Trp Ala Asn Gln Cys Gln Tyr Gly His Asp Thr Cys Arg Asp Val Ala		
115	120	125
Lys Tyr Gln Val Gly Gln Asn Val Ala Leu Thr Gly Ser Thr Ala Ala		
130	135	140
Lys Tyr Asp Asp Pro Val Lys Leu Val Lys Met Trp Glu Asp Glu Val		
145	150	155
Lys Asp Tyr Asn Pro Lys Lys Phe Ser Gly Asn Asp Phe Leu Lys		
165	170	175
Thr Gly His Tyr Thr Gln Met Val Trp Ala Asn Thr Lys Glu Val Gly		
180	185	190
Cys Gly Ser Ile Lys Tyr Ile Gln Glu Lys Trp His Lys His Tyr Leu		
195	200	205
Val Cys Asn Tyr Gly Pro Ser Gly Asn Phe Met Asn Glu Glu Leu Tyr		
210	215	220
Gln Thr Lys		
225		

<210> 171

<211> 206

<212> PRT

<213> *Vespula vidua* (Yellow jacket) (Wasp)

<400> 171

Lys Val Asn Tyr Cys Lys Ile Lys Cys Leu Lys Gly Gly Val His Thr
1 5 10 15
Ala Cys Lys Tyr Gly Thr Ser Thr Lys Pro Asn Cys Gly Lys Met Val
20 25 30
Val Lys Ala Tyr Gly Leu Thr Glu Ala Glu Lys Gln Glu Ile Leu Lys
35 40 45
Val His Asn Asp Phe Arg Gln Lys Val Ala Lys Gly Leu Glu Thr Arg
50 55 60
Gly Asn Pro Gly Pro Gln Pro Pro Ala Lys Asn Met Asn Asn Leu Val
65 70 75 80
Trp Asn Asp Glu Leu Ala Asn Ile Ala Gln Val Trp Ala Ser Gln Cys
85 90 95
Asn Tyr Gly His Asp Thr Cys Lys Asp Thr Glu Lys Tyr Pro Val Gly
100 105 110
Gln Asn Ile Ala Lys Arg Ser Thr Thr Ala Ala Leu Phe Asp Ser Pro
115 120 125
Gly Lys Leu Val Lys Met Trp Glu Asn Glu Val Lys Asp Phe Asn Pro
130 135 140
Asn Ile Glu Trp Ser Lys Asn Asn Leu Lys Lys Thr Gly His Tyr Thr
145 150 155 160
Gln Met Val Trp Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Val Lys
165 170 175
Tyr Val Lys Asp Glu Trp Tyr Thr His Tyr Leu Val Cys Asn Tyr Gly
180 185 190
Pro Ser Gly Asn Phe Arg Asn Glu Lys Leu Tyr Glu Lys Lys
195 200 205

<210> 172

<211> 202

<212> PRT

<213> Vespa mandarinia (Hornet)

<400> 172

Asn Asn Tyr Cys Lys Ile Lys Cys Arg Ser Gly Ile His Thr Leu Cys
1 5 10 15
Lys Phe Gly Ile Ser Thr Lys Pro Asn Cys Gly Lys Asn Val Val Lys
20 25 30
Ala Ser Gly Leu Thr Lys Ala Glu Lys Leu Glu Ile Leu Lys Gln His
35 40 45
Asn Glu Phe Arg Gln Lys Val Ala Arg Gly Leu Glu Thr Arg Gly Lys
50 55 60
Pro Gly Pro Gln Pro Pro Ala Lys Ser Met Asn Thr Leu Val Trp Asn
65 70 75 80
Asp Glu Leu Ala Gln Ile Ala Gln Val Trp Ala Gly Gln Cys Asp Tyr
85 90 95
Gly His Asp Val Cys Arg Asn Thr Ala Lys Tyr Ser Val Gly Gln Asn
100 105 110
Ile Ala Glu Asn Gly Ser Thr Ala Ala Ser Phe Ala Ser Val Ser Asn
115 120 125
Met Val Gln Met Trp Ala Asp Glu Val Lys Asn Tyr Gln Tyr Gly Ser
130 135 140
Thr Lys Asn Lys Leu Ile Glu Val Gly His Tyr Thr Gln Met Val Trp
145 150 155 160
Ala Lys Thr Lys Glu Ile Gly Cys Gly Ser Ile Lys Tyr Ile Glu Asn
165 170 175
Gly Trp His Arg His Tyr Leu Val Cys Asn Tyr Gly Pro Ala Gly Asn
180 185 190
Ile Gly Asn Glu Pro Ile Tyr Glu Arg Lys

<210> 173
 <211> 191
 <212> PRT
 <213> Zea mays (Maize)

<400> 173
 Met Thr Ala Cys Gly Asn Val Pro Ile Phe Lys Asp Gly Lys Gly Cys
 1 5 10 15
 Gly Ser Cys Tyr Glu Val Arg Cys Lys Glu Lys Pro Glu Cys Ser Gly
 20 25 30
 Asn Pro Val Thr Val Phe Ile Thr Asp Met Asn Tyr Glu Pro Ile Ala
 35 40 45
 Pro Tyr His Phe Asp Leu Ser Gly Lys Ala Phe Gly Ser Leu Ala Lys
 50 55 60
 Pro Gly Leu Asn Asp Lys Leu Arg His Cys Gly Ile Met Asp Val Glu
 65 70 75 80
 Phe Arg Arg Val Arg Cys Lys Tyr Pro Ala Gly Gln Lys Ile Val Phe
 85 90 95
 His Ile Glu Lys Gly Cys Asn Pro Asn Tyr Val Ala Val Leu Val Lys
 100 105 110
 Phe Val Ala Asp Asp Gly Asp Ile Val Leu Met Glu Ile Gln Asp Lys
 115 120 125
 Leu Ser Ala Glu Trp Lys Pro Met Lys Leu Ser Trp Gly Ala Ile Trp
 130 135 140
 Arg Met Asp Thr Ala Lys Ala Leu Lys Gly Pro Phe Ser Ile Arg Leu
 145 150 155 160
 Thr Ser Glu Ser Gly Lys Lys Val Ile Ala Lys Asp Ile Ile Pro Ala
 165 170 175
 Asn Trp Arg Pro Asp Ala Val Tyr Thr Ser Asn Val Gln Phe Tyr
 180 185 190

<210> 174
 <211> 73
 <212> DNA
 <213> Unknown

<220>
 <223> Primer sequence

<400> 174
 gctcgagggt ggaggcggtt caggccgagg tggctctggc ggtggcggat cgttcacccc 60
 gcccaccgtg aag 73

<210> 175
 <211> 33
 <212> DNA
 <213> Unknown

<220>
 <223> Primer sequence

<400> 175
 ggccggccgct catttaccgg gatttacaga cac

33

<210> 176
 <211> 32
 <212> PRT

BJ
conclude

<213> Arachis hypogaea (peanut)

<220>

<221> UNSURE

<222> 1, 4, 11, 12, 27, 30

<223> Xaa = any amino acid

<400> 176

Xaa Gln Gln Xaa Glu Leu Gln Asp Leu Glu Xaa Xaa Gln Ser Gln Leu
1 5 10 15
Glu Asp Ala Asn Leu Arg Pro Arg Glu Gln Xaa Leu Met Xaa Lys Ile
20 25 30

<210> 177

<211> 32

<212> PRT

<213> Arachis hypogaea (peanut)

<220>

<221> UNSURE

<222> 1, 4, 8, 10, 11, 12, 27, 30

<223> Xaa = any amino acid

<400> 177

Xaa Gln Gln Xaa Glu Leu Gln Xaa Asp Xaa Xaa Xaa Gln Ser Gln Leu
1 5 10 15
Glu Arg Ala Asp Leu Arg Pro Gly Glu Gln Xaa Leu Met Xaa Lys Ile
20 25 30